This handbook is designed as an introduction to the process of library research in the field of education. To illustrate the process, a sample topic is developed from a broad concept through a well-developed topic for a research paper. Following an overview of a successful research strategy, the chapters are organized in the order of a typical strategy: (1) encyclopedias, handbooks, and dictionaries; (2) library catalogs; (3) Library of Congress call numbers; (4) determining locations of books; (5) indexes; (6) locating journals and microforms; (7) finding government documents; (8) finding statistical information; (9) computer searching; (10) trouble-shooting; (11) evaluation of sources; and (12) formatting the final bibliography. (MES)
EDUCATION RESEARCH HANDBOOK

LIBRARY INSTRUCTION PROGRAM
ACKNOWLEDGEMENTS

Permission to reprint material copyrighted by the following publishers is gratefully acknowledged:


Congressional Information Service. Entry on p. 42 from the American Statistics Index, reproduced by permission, Copyright 1987. All Rights Reserved.

Universal Press Syndicate. Cartoons on pp. 4, 45, 48 reprinted with permission from Wake Me Up When I'm a Size 5, and Thin Thighs in Thirty Years by Cathy Guiservite, Copyrights 1986. Used by permission of the publisher. All Rights Reserved.

University of Houston Library
Library Instruction Program/1st edition, July 1988
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction and Assignment</td>
<td>1</td>
</tr>
<tr>
<td>Library Tour</td>
<td>3</td>
</tr>
<tr>
<td>Research Strategy</td>
<td>4</td>
</tr>
<tr>
<td>Encyclopedias, Handbooks, and Dictionaries</td>
<td>7</td>
</tr>
<tr>
<td>Library Catalogs</td>
<td>9</td>
</tr>
<tr>
<td>Library of Congress Call Numbers</td>
<td>18</td>
</tr>
<tr>
<td>Determining Locations of Books</td>
<td>20</td>
</tr>
<tr>
<td>Indexes</td>
<td>22</td>
</tr>
<tr>
<td>EDUCATION INDEX</td>
<td>23</td>
</tr>
<tr>
<td>ERIC</td>
<td>26</td>
</tr>
<tr>
<td>ERIC on COMPACT DISC.</td>
<td>32</td>
</tr>
<tr>
<td>PSYCHOLOGICAL ABSTRACTS</td>
<td>36</td>
</tr>
<tr>
<td>Locating Journals &amp; Microforms</td>
<td>39</td>
</tr>
<tr>
<td>Finding Government Documents</td>
<td>41</td>
</tr>
<tr>
<td>Finding Statistical Information</td>
<td>42</td>
</tr>
<tr>
<td>Computer Searching</td>
<td>43</td>
</tr>
<tr>
<td>Trouble-Shooting</td>
<td>46</td>
</tr>
<tr>
<td>Evaluation of Sources</td>
<td>49</td>
</tr>
<tr>
<td>Formatting Your Final Bibliography</td>
<td>53</td>
</tr>
</tbody>
</table>
INTRODUCTION

This handbook is designed to introduce you to the process of doing library research in the field of education. Throughout your academic career and in your professional career as you develop proposals or projects, you will need to find information. We live in what has been called the "Information Age." The amount of information available in every subject area, including education, is growing at a phenomenal rate. Much of this information is accessible through university, public, or professional libraries.

In order to effectively access and use the information available in libraries, you need to develop advanced information-seeking skills in your subject area. As you read the chapters in this handbook, you will be introduced to new sources as well as new ways of using familiar sources such as the Library Catalog. In order to illustrate the process of looking for information, a sample topic will be developed from a very broad concept through to a well-developed topic for a research paper using the specialized education research tools available in the Library.

Suppose that you have been given an assignment in your education class to write a paper on a learning theory. You have been told to use research material only and that your bibliography must include references to both books and journals. From your class lectures you have received a good overview of learning theories, but you may still be unsure of what your topic will be. What do you do now?

As stated earlier, the following chapters are organized in the order of a typical research strategy, the order in which you might proceed with your library research for this and future information needs. As an example, the general topic described above is developed in this workbook using sources in the Library. The final topic developed in this handbook is: "Teaching Methods to Develop Critical Thinking Skills in the Social Studies Classroom."
THE ASSIGNMENT

As you complete each section, there is space for you to develop your strategy for your own research. By the end of the workbook, you will have developed an annotated bibliography of sources on your research interest. In the annotated bibliography you must list each of your sources in APA format with a short description defending your selection as research material and summarizing the content of the item. This handbook is a step-by-step approach towards that final product. The assignment for each section is in a box at the end.

As you go through the handbook remember that, instead of learning the titles of many reference sources, it is important to learn the types of sources available, the kinds of information they provide, and their use in a logical order. The result will be less frustration and a better product!
LIBRARY TOUR

If you are unfamiliar with the M.D. Anderson Library, it would probably be a good investment of your time to take a tour of the Library in order to become oriented to the building. Library tours usually take 30-45 minutes. The following options are available to help you with this orientation.

A. Printed WALKING TOUR Library Guides are available from the staff at the Reference/Information Desk when the desk is open. This guide is self-paced, and you take the tour whenever the Library is open.

B. An audiocassette tour of the Library may be borrowed at the Reserves Desk, 1st Floor Red Wing. The Reserves Desk is open all the hours the Library is open.

C. The Information Machine, located on IBM microcomputers near the Online Catalog, 1st Floor Red Wing, provides a general orientation to the Library. You can use the Information Machine to learn about the resources and services available in this Library. The Information Machine is available whenever the Library is open.

D. General library tours are offered by library staff during the day on Tuesday's and Wednesday's throughout the semester. The schedule for these tours is available on a poster in the Library lobby and at the Reference/Information Desk.

The brochure LIBRARY INFORMATION includes maps of the Library as well as a basic orientation to services. Copies are available at the Reference/Information Desk.
RESEARCH STRATEGY

One of the keys to successful research is planning. Impulsive library research is much like impulsive shopping. You may end up with something to take with you, but it may not be what you really need.

START EARLY. There are many reasons for allowing yourself time for information-gathering. It will take some time to identify the best sources for your research and to gather the information. If you wait until the week before the assignment is due, others may need many of the same sources at the same time.

To ensure that you conduct a thorough and efficient search for information, you need to use a systematic plan commonly called a research strategy. A research strategy can and should be tailored to fit your research project; however, most strategies have the following characteristics or steps:

STEP 1: Select A Topic.
Suppose, through textbooks and lectures, you have already identified the major theories of learning. Let's assume that you are especially interested in cognitive learning theories. However, you are aware that much has been written on cognitive learning--much more than could be effectively presented in a research paper.

An important part of the research process is selection of a specific topic. What is your research question? What specific aspect of cognitive learning theories will you focus on?
Two important considerations of topic selection or formulation are:

1. Select a general topic or area of interest, i.e., cognitive learning theories. Pick a topic of interest to you. Discussing your ideas with colleagues and instructors may help you select a suitable general topic for your research paper.

2. Narrow your topic.
Once you have selected a broad topic of interest you next need to determine what aspect you are interested in pursuing. Colleagues and instructors may also be able to provide suggestions in this step. In addition, background reading may prove helpful. The next chapter of this handbook describes how you can use specialized educational reference sources in the Library to help you focus your research.

Step 2: Analyze the Problem.
Decide what kind of and how much information you need. In-depth analysis or a brief report? Recent developments or a historical survey? Scholarly research or popular views? Review what you already know about the topic from textbooks, lectures, colleagues, etc. Consult with instructors and librarians for suggestions. Also, think about what sources are most likely to contain information on your topic. Do you need to locate books, journal articles, etc? This handbook will introduce you to the types of sources available in libraries and what information you may find in them.

Step 3: Prepare A Preliminary Bibliography.
Consult sources of background and historical information first and then follow-up with sources which provide more detailed or recent information. For example, an encyclopedia article on learning theories will survey their history and development as well as provide an overview; books will cover further developments and provide an overview; journal articles will indicate the most recent developments or specialized applications.

This is an example research strategy. What sources you use and in what order will depend on what you already know about a topic. The important thing to remember is to use what works for you. Flexibility and adaptability are key in successful library research. As you compile your preliminary bibliography, if you need assistance, ask at the Reference/Information Desk, 1st Floor Red Wing. You will use this preliminary bibliography to locate materials. Once you have found these materials, you can determine which ones are appropriate for your final bibliography. As you compile this preliminary bibliography, keep in mind the following points:
1. You may later find that not all of the materials are relevant to your specific topic.

2. In most cases not all of the materials will be available in this Library. Staff at the Reference/Information Desk can identify other Houston-area libraries that have those materials. We can also have the material sent to this Library, however, that takes time (more on this option follows later in the section "Trouble-Shooting").

3. Some of the articles, books, etc., will not contain the type of information you need. They may be general discussions when you need research materials.

It is important to write down all the citations which seem relevant as you use a source. By doing so you will possibly save yourself a lot of time later trying to retrace your steps if a number of the materials do not meet your evaluation criteria. Also, write down the complete citation and note where you found it in case you need to check it later.

Step 4: Evaluate Your Sources.
What are the authors' credentials? What research methodologies were used; is the article from a refereed journal? Your evaluation criteria will vary depending on what types of sources you wish to use: research, practical, or a combination of both.

Step 5: Develop Your Final Annotated Bibliography
Upon completion of your evaluation of the sources in your preliminary bibliography, select those sources most appropriate for your topic. List each of these sources in APA format with a short description defending your selection as research material - (data-based) vs. expository writing - and summarizing the content of the item.

Step 6: Write Your Paper.
After reading the sources you have located, you will write your final paper. Included with the paper will be your final bibliography - the sources you actually used to write the paper.

The following chapters are organized in the order of a typical research strategy: formulating your topic, using sources of background information, locating citations to books in this library, using indexes to locate citations to journal articles and government documents, and evaluating sources of information. Not all of the steps are required as part of every research process. Which sources you use will depend on what you already know and what you need to find out. The chart on the following page further illustrates a sample research strategy.
SAMPLE RESEARCH STRATEGY

SELECT A GENERAL TOPIC

FIND BACKGROUND INFORMATION

GENERAL REFERENCE BOOKS

SELECT SPECIFIC TOPIC

ASSEMBLE BASIC BIBLIOGRAPHY

FIND BOOKS

FIND PERIODICALS

ASK REFERENCE LIBRARIAN FOR SUGGESTIONS

FIND BOOKS

CARD AND ONLINE CATALOGS

INDEXES

LOCATE MATERIALS

IF UNABLE TO LOCATE MATERIALS, ASK AT REFERENCE/INFORMATION DESK

READ MATERIALS FOR NECESSARY INFORMATION

WRITE PAPER
SUBJECT ENCYCLOPEDIAS, HANDBOOKS, AND DICTIONARIES

How you select a specific topic will depend on how much you already know about the subject. In some cases you may have no idea where to begin. At other times, as in the example assignment, you may have some ideas with which to begin. In either case, background reading may be needed to determine how to focus or narrow your topic.

Encyclopedias

Specialized encyclopedias concentrate on broad subject fields such as education and contain articles written by recognized scholars. These articles are usually more detailed and exhaustive than articles in general encyclopedias and tend to include extensive bibliographies.

You can use subject encyclopedias for several purposes:

1. Find an overview or summary of the subject
2. Familiarize yourself with words and phrases used by scholars to discuss the topic
3. Understand the broad context of the topic as well as the various parts of the subject and how they are related
4. Define and clarify the topic
5. Identify other sources of information in attached bibliographies

Most encyclopedias are located in ANREF, Reference Collection, 1st Floor Red Wing. Subject encyclopedias appropriate to the study of education include:

- Encyclopedia of Education  ANREF LB17.E3
- International Encyclopedia of the Social Sciences  ANREF H41.I5
- Handbook of Research on Teaching  ANREF LB1028.H315 1986
  ANSTAK LB1028.H315 1986

The Handbook of Research on Teaching is an excellent source for background information and general overviews. There are also extensive bibliographies following each article. For example, in the article "Research on Teaching Social Studies," there is a review of research on developing critical thinking skills.
EXAMPLE

If you were to look under the example general subject "cognitive learning theories" in the index volume (Vol. 10) of the Encyclopedia of Education, you would find the heading "Cognitive Learning." By looking at the headings in the index you would see more specific topics, such as "Cognitive and Affective Outcomes of Learning." Under that heading there are a number of subdivisions. Subdivisions such as those may help you focus the topic further.

Suppose you are a social studies teacher. The subdivision labeled in the example entry below would probably be of particular interest.

EXAMPLE from Encyclopedia of Education Index

COGNITIVE AND AFFECTIVE OUTCOMES OF LEARNING 2:196-201
art education promoting 1:309
comprehensiveness in instructional objectives 8:111
contemporary affairs study 2:430
foreign language teaching, elementary schools 4:59
goals of education 4:148, 155, 156
music education 6:474
questioning in the classroom 2:184
social studies education 8:283
taxonomies of learning... 8:596
vocabulary development objectives 9:463

As you read an article in an encyclopedia, other ideas for a topic might occur to you.

Dictionaries

During the research process you may encounter specialized language you do not understand or acronyms with which you are not familiar. You may even encounter ordinary English words given new meanings by a subject specialist. Some of the subject dictionaries and handbooks used by educators are:

A Dictionary of Education  ANREF LB15.R64 1982
Dictionary of Educational Acronyms, Abbreviations, and Initialism
ANREF LB15.P35 1985

Using what you have learned in this section, check to see what articles apply to your subject interest. Using the index of the Handbook and/or an encyclopedia, look up your topic. What applicable headings do you find? Are there subdivisions which seem particularly relevant? After reading the articles, write down any relevant citations you find in the bibliographies.
LIBRARY CATALOGS

Now that you have defined your research topic, you can begin to locate books in the Library on the topic.

WHY YOU SHOULD USE BOOKS

There are a number of reasons for using books to find information for your research paper. They include the following:

1. Books are often the best sources for a comprehensive, in-depth look at a topic.

2. A book may give you different viewpoints on your topic, particularly if each chapter is written by a different author.

3. Books often have extensive bibliographies, providing you with ready-made lists of sources to check for further information.

4. A book may include statistical or factual data gathered from many sources. This can save you the trouble of examining the complete range of research on the topic and can provide clues as to where to find more current data.

HOW TO IDENTIFY BOOKS THE LIBRARY OWNS

To identify which books are owned by the M.D. Anderson Library, you should use the Online Catalog. The Online Catalog includes records for books owned by the M.D. Anderson Library, the other branch libraries on this campus (Architecture and Art, Music, Optometry, and Pharmacy), the Law Library, and the libraries of the other UH System campuses (UH Clear Lake, UH Downtown, and UH Victoria).

The Online Catalog is more up-to-date than the Card Catalog, and it allows you to search for books in ways that are not possible in the Card Catalog. The Online Catalog can also be searched from your home or office if you have the necessary equipment. A brochure on remote access to the online Catalog is available at the Reference/Information Desk.
SEARCHING THE ONLINE CATALOG

The Online Catalog is menu-driven, with instructions provided at the bottom of the screen. The first time you use the Online Catalog, you might want to type in NEW USER and press the [SEND] key to read a brief introduction.

If you are familiar with the Online Catalog, you may want to skip to SUBJECT SEARCHING in this handbook to read some new information.

STEP ONE: CHOOSING YOUR SEARCH METHOD

The first step is to select the type of search you want to do. Call up the "Search Type Menu" by following the instructions at the bottom of the screen for beginning a new search. You may select from the following list of ways to search the Online Catalog:

Search Type Menu

1. TIL - Title, journal title, series title
2. AUT - Author, illustrator, editor, organization, conference
3. A-T - Combination of author and title
4. SUB - Subject heading assigned by library
5. NUM - Call number, ISBN, ISSN
6. KEY - One word taken from a title, author, or subject

STEP TWO: SELECTING SEARCH TERMS

Searching by author or title is straightforward; simply follow the instructions on the screen. Searching for books on a topic may require some preliminary steps.

This section describes how to search the Online Catalog for books on a topic:

SUBJECT SEARCHING: Using Library of Congress subject headings in a subject search

KEYWORD SEARCHING: Using keywords in titles, authors' names, and subject headings
SUBJECT SEARCHING

To do a subject search of the Online Catalog, you must know the subject headings that are used by the Library for your topic. These subject headings are assigned to the catalog records for books, and they are not always the same terms as those used in your textbooks.

The official list of these headings is contained in large books called Library of Congress Subject Headings (LCSH), copies of which are kept by the Online Catalog, 1st Floor Red Wing. When you check a subject term in the LCSH, you will also find references to related subject headings.

For example, before beginning a subject search for books on the sample topic "social studies and critical thinking skills," you can identify some potential subjects:

Critical thinking
Thinking
Social Studies

Next, when you look up the potential subjects in LCSH, you find cross references from:

<table>
<thead>
<tr>
<th>Library of Congress Subject Heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinking TO Thought and Thinking</td>
</tr>
<tr>
<td>Social Studies TO Social Sciences</td>
</tr>
</tbody>
</table>

By doing a subject search of the Online Catalog using the above Library of Congress subject headings ("Thought and Thinking" and "Social Sciences"), you will retrieve records for books on "critical thinking" and "social studies." Sections in those books may discuss the sample topic.

REFINING SUBJECT HEADINGS

Subdivisions are often added to subject headings to modify, refine, or narrow the meaning and scope of the subject headings. The subdivision commonly used to denote how to study or how to teach a discipline is "-- STUDY AND TEACHING." This can be made even more specific by adding on the terms (ELEMENTARY), (PRIMARY), (SECONDARY), etc.

Examples

SOCIAL SCIENCES -- STUDY AND TEACHING (SECONDARY)
THOUGHT AND THINKING -- STUDY AND TEACHING
Now look in LCSH for possible subject headings for your topic. Write down any headings you might use when searching the Online Catalog for books.

**KEYWORD SEARCHING**

Keyword searching offers you an option not possible in card catalogs. With this search type, you may search any one word and find records in the Online Catalog that contain that word anywhere in the title, an author's name, or a subject heading. This search type can be especially useful when you have trouble identifying appropriate subject headings to use in a subject search.

**Keyword Searching Tips**

1. As this handbook is being printed, searching by keyword will not retrieve the most recent books. For recent records, you must follow up with a subject search. (See Using a Known Title to Find Others at the end of this section.)

2. Select an uncommon word to search. A very common word such as "critical," "education," or "social" used as a title keyword would probably result in hundreds or even thousands of matching titles.

3. Keep in mind that a particular word can have more than one meaning or can be used in more than one context. Some of the titles you retrieve might be useful while others might not be.

A keyword search is not appropriate for every topic. For example, some books on a topic may not have the word you selected in the title. If you can identify an uncommon word and you are having trouble identifying a subject heading, you can begin with a keyword search; however, you should probably follow up with a subject search to ensure that you do not miss retrieving records for relevant books on a topic.
STEP THREE: RETRIEVING RECORDS FOR BOOKS

After you have entered a title, keyword, subject heading, etc., the next screen in the Online Catalog will often be a list of items from which you must choose one at a time. For example, when you enter "THOUGHT AND THINKING -- STUDY AND TEACHING" as a SUBJECT, you retrieve the screen below:

095 UHUP/M.D. ANDERSON LIB. - GEAC LIBRARY SYSTEM - ALL *SUBJECT SEARCH
Your Subject: THOUGHT AND THINKING-STUDY AND TEACHING Matches 4 subjects

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thought and thinking -- Study and teaching.</td>
<td>26</td>
</tr>
<tr>
<td>2</td>
<td>Thought and thinking -- Study and teaching -- Congresses.</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Thought and thinking -- Study and teaching (Elementary).</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Thought and thinking -- Study and teaching (Primary)</td>
<td>1</td>
</tr>
</tbody>
</table>

By selecting number "1," you retrieve the following list of book titles:

095 UHUP/M.D. ANDERSON LIB. - GEAC LIBRARY SYSTEM - ALL *SUBJECT SEARCH
matches 26 citations

Ref# Author                          Title                        Date
1  Aylesworth, Thomas G.             Teaching for thinking          1969
2  Baron, Joan Boykoff               Teaching thinking skills : theory 1987
3  Bleigh, Donald A.                 Teach thinking by discussion /  1986
4  Chance, Paul.                     Thinking in the classroom : a survey> 1986
5  Chuska, Kenneth R.                Teaching the process of thinking, K> 1986
7  D'Angelo, Edward, 1932-            Teaching of critical thinking.   1971
8  De Bono, Edward, 1933-            Teaching thinking /               1976
9  De Bono, Edward, 1933-            Teaching thinking /               1978
10 Drake, James A.                    Teaching critical thinking : analyz> 1976
11 Eggan, Paul D., 1940-              Strategies for teachers : teaching -> 1988
12 Friedman, Myles I., 1924-          Teaching higher order thinking skill> 1984

Type a number to see associated information -OR-
IND - see list of headings           FOR - move forward in this list
CAT - begin a new search             CMD - see additional commands

Enter number or code: FOR

If you are interested in retrieving the record for the book Thinking in the classroom: a survey..., type in the reference number "4" and press the [SEND] key. The next screen you will retrieve is the BRIEF record for a book. There are two records for each book: a BRIEF record and a FUL record.
EXAMPLE BRIEF Record

AUTHOR: Chance, Paul.
TITLE: Thinking in the classroom : a survey of programs / Paul Chance ; for>

Location Loan Call Status
          Type  Number
ANDERS/ANSTAK BOOK LB1062.C48 1986

The BRIEF record contains the following information about a book:

AUTHOR: Personal author or corporate author (association, institution, conference, corporation)

TITLE: Complete title of the book

IMPRINT: Place of publication, publisher, and date of publication

LOCATION: Code that stands for the library in which you will find the book and the particular section of the library where the book is located. A list of these codes is available by the Online Catalog. See the following chapter LOCATING BOOKS for more information.

LOAN TYPE: Code for identifying circulation information for the item. A book that can be checked out is designated as BOOK. A book that cannot be checked out is designated as NCBOOK.

CALL NUMBER: Number assigned to determine the location of the book on the shelf

STATUS: Information about the availability of the book. "IN LIBRARY" means that the book is not checked out; "DUE" followed by a date means that the book is checked out and is due back on the date indicated; Blank status line or "STATUS UNAVAILABLE" means that the Online Catalog does not know the status. If the book is not on the shelf, check with the staff at the Circulation Desk.
After you have found a BRIEF record, you may then view a FULL record for the same title by typing in "FUL" and pressing SEND:

FULL record

AUTHOR: Chance, Paul.
TITLE: Thinking in the classroom : a survey of programs / Paul Chance ; foreword by Ronald S. Brandt.
PHYSICAL FEATURES: xii, 164 p. : ill. ; 23 cm.
SUBJECTS: Creative thinking (Education) * Thought and thinking -- Study and teaching. * Problem solving -- Study and teaching.
LC CARD: 85017335
ISBN: 0807727946 (pbk.)

Note that the FULL record does not contain LOCATION, CALL NUMBER, or STATUS information for the book. You must get that information from the BRIEF record. The FULL record does, however, contain the following information not found on the BRIEF record:

PHYSICAL FEATURES: Number of pages; presence of illustrations

SERIES: Title of any series in which the book was published (for example, New Directions in Teaching and Learning)

NOTES: Includes special features, such as an index or bibliography

SUBJECTS: Library of Congress subject headings assigned to the book for subject searching

OTHER AUTHORS: Names of persons or corporate authors associated with the book other than the main author

OTHER TITLES: Titles other than the main title associated with the book
SEARCHING TIPS

This section describes some techniques that may help you improve your searching of the Online Catalog.

1. **Using a Known Title to Find Others.** You may already know of a good book on your topic. Perhaps your instructor mentioned a book in class, or you found a citation to a relevant book in the bibliography of an encyclopedia article. You can use the catalog record for a book to help you search for other relevant titles.

First, call up the Online Catalog record for the book you know by doing a title or author-title search. When the BRIEF record is displayed, call up the FULL record by typing the code FUL and pressing the [SEND] key. In the FULL record you will find, following the word SUBJECTS, the list of subject headings assigned to this book by the Library. You can then use those headings in a subject search to identify additional titles on the same subjects.

**EXAMPLE**

Suppose you already know the book *Fostering Critical Thinking*, by Robert E. Young, and have found it useful for the example topic. If you search this title in the Online Catalog; then call up the FULL record, you will retrieve:

**Example**

**FULL RECORD**

- **TITLE:** Fostering critical thinking / Robert E. Young, guest editor.
- **IMPRINT:** San Francisco : Jossey-Bass, 1980.
- **PHYSICAL FEATURES:** xiii, 103 p. ; 24 cm.
- **SERIES:** New directions for teaching and learning ; no. 3
- **NOTES:** Includes bibliographies and index.
- **OTHER AUTHORS, ETC:** Young, Robert E.
- **SUBJECTS:** Thought and thinking -- Study and teaching. * Problem solving -- Study and teaching.
- **LC CARD:** 80080836

This record has two subject headings which you may want to try in a subject search:

- **THOUGHT AND THINKING -- STUDY AND TEACHING**
- **PROBLEM SOLVING -- STUDY AND TEACHING**
2. **Truncation.** Truncation is used to search for variant spellings. If you wish to truncate in a keyword search, you must type a # at the end of the letters you enter. For example, if you search mainstream# as a title keyword, you will retrieve the following titles (along with 136 others):

- Hearing impaired pupils in the mainstream
- Administrative implications of mainstreaming
- The mainstreamed library

When you search by title (TIL), author (AUT), or subject (SUB), truncation is automatic. If you choose, you may simply type the beginning of the search term. You can do this when you know only the beginning of a title or only the first word of an author's name or a subject heading. The catalog will display records that match your search term exactly and also those that are alphabetically close.

**EXAMPLE**

AUT/BRZ will retrieve several authors names, including Brzezinski, Zbigniew

Now do a SUBJECT search of the Online Catalog to locate records for books on your topic. The next section describes how to locate books in the Library using the information you find on the catalog record.
LIBRARY OF CONGRESS CALL NUMBERS

This section explains how to read Library of Congress (L.C.) call numbers on the books (as opposed to Dewey Decimal call numbers used in school and public libraries) and how to interpret a call number to find its location in the Library. If you are familiar with L.C. call numbers, you may want to skim the first part of this section and go on to read "Determining Locations of Books."

Book Call Numbers and Library of Congress (L.C.) Classification System

Each book is assigned a unique call number that indicates where it will be found and, at the same time, distinguishes it from other books in the Library. Besides being listed on the catalog record, the call number is also placed on the book itself, on or near the spine, so you can go to the shelves and find the book.

How Books are Ranged on the Shelves

Books are arranged on the shelves according to their call numbers. For example, the L section (general education) is shelved before the M section (music). Then, within a section, they are arranged as follows: L, LA, LB, LC, LD, etc. and M, MA, MB, MC, MD, etc.

How to read a call number

You may see call numbers written either of the two ways:

LA267.E26 1984 or LA267/E26

(Online Catalog) (Serials List)
The step-by-step process in reading our example call number is summarized below:

1. **LA**
   
   Single letters are filed before double letters in alphabetical order. That means call numbers beginning with LA come after those beginning with L and before those beginning with LB.

2. **LA267**
   
   The first numeric part of the call number is always a whole number, which may be followed by a decimal. For example:
   
   - LA265
   - LA267
   - LA267.4
   - LA300

3. **LA267.E**
   
   Within the LA267s, call numbers are filed alphabetically. In this case, look for the letter "E". For example:
   
   - LA267.D
   - LA267.E
   - LA267.F

4. **LA267.E26**
   
   Now comes the tricky part. The number following the "E" is a decimal number, not a whole number. Even though a decimal point may not be present at this location of every call number, it is still a decimal number--i.e., E26 or .E26 are both decimal numbers.
   
   - LA267.E156
   - LA267E26
   - LA267.E3

5. **LA267.E26 1984**
   
   The last part of the call number may contain the book's publication date. All dates are filed numerically, e.g., 1980, 1981, 1982, etc. Not all call numbers include the publication date. Those call numbers that don't include the publication date are shelved before those that do. For example:
   
   - LA302.S82
   - LA302.S82 1984
DETERMINING LOCATIONS O' BOOKS

How to Interpret Location Codes

To find books in the Library, you must know the Location Code and the Call Number. Both pieces of information can be found by using the Online Catalog. The Location Code tells you the part of the Library where the book will be found. The call number leads you to the exact location within that part of the Library. Whenever a book is housed in a special location such as a branch library, in the Reference Room, or in the Current Journals, Microforms, and Media Room, etc., that location will be indicated by a special location designation symbol. The location designation on the Online Catalog record is found in the Brief Record display, below the heading LOCATION.

To interpret a particular location code, consult the Special Locations Codes charts posted throughout the Library.

EXAMPLE: A book with the location code MUSTAK would be located at the Music Branch Library.

<table>
<thead>
<tr>
<th>Location</th>
<th>Loan Type</th>
<th>Call Type</th>
<th>Call Number</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSIC /MUSTAK BOOK</td>
<td></td>
<td>ML160.L5922 1983</td>
<td>In Library</td>
<td></td>
</tr>
</tbody>
</table>

AUTHOR: Levy, Kenneth, 1927-
TITLE: Study guide to accompany Music, a listener's introduction / Kenneth >

EXAMPLE: A book with the location ANDERS/ANJUV would be located in the Juvenile Literature Collection in this library.

<table>
<thead>
<tr>
<th>Location</th>
<th>Loan Type</th>
<th>Call Type</th>
<th>Call Number</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDERS/ANJUV BOOK</td>
<td></td>
<td>P28.3.G276ID</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AUTHOR: Geisel, Theodor Seuss, 1904-
TITLE: If I ran the circus,
IMPRINT: New York, Random House [1956]

The Special Locations Codes chart has been reproduced on the following page. The section "Trouble-Shooting" in this handbook describes possible solutions for some of the common problems you may have in locating materials in the Library.
How to Interpret Call Number Locations

Many books have the location code ANSTAK, meaning those books are shelved in the regular bookshelves in the Library. If a book has the location code ANSTAK, you need to use the Call Number Locations Chart. The Call Number Locations Chart will direct you to the floor and wing of this Library where your book will be located. Copies of this chart have been posted throughout the Library and are available at the Reference/Information Desk. The Call Number Locations Chart has been reproduced below:

<table>
<thead>
<tr>
<th>1st Letter of Call No.</th>
<th>Floor &amp; Wing</th>
<th>1st Letter of Call No.</th>
<th>Floor &amp; Wing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5 BLUE</td>
<td>M</td>
<td>3 BLUE</td>
</tr>
<tr>
<td>B</td>
<td>5 BLUE</td>
<td>N</td>
<td>3 BLUE</td>
</tr>
<tr>
<td>C</td>
<td>5 BROWN</td>
<td>P</td>
<td>3 BROWN</td>
</tr>
<tr>
<td>D</td>
<td>5 BROWN</td>
<td>Q-QC</td>
<td>2 RED</td>
</tr>
<tr>
<td>E</td>
<td>4 BLUE</td>
<td>QD-QM</td>
<td>2 BLUE</td>
</tr>
<tr>
<td>F</td>
<td>4 BLUE</td>
<td>QN-QR</td>
<td>2 BROWN</td>
</tr>
<tr>
<td>G</td>
<td>4 BLUE</td>
<td>R</td>
<td>2 BROWN</td>
</tr>
<tr>
<td>H</td>
<td>4 BROWN</td>
<td>S</td>
<td>2 BROWN</td>
</tr>
<tr>
<td>J</td>
<td>3 BLUE</td>
<td>T</td>
<td>2 BROWN</td>
</tr>
<tr>
<td>K</td>
<td>6 BLUE</td>
<td>U</td>
<td>6 BLUE</td>
</tr>
<tr>
<td>L</td>
<td>3 BLUE</td>
<td>V</td>
<td>6 BLUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Z</td>
<td>6 BLUE</td>
</tr>
</tbody>
</table>

*HO on 6 BLUE
**Most M's at Architecture & Art Library

The first letter of the call number tells which floor and wing to go in order to find the book. For example, a call number beginning with the letters "LB" will be located on the 3rd Floor Blue Wing, while one beginning with "T" will be located on the 2nd Floor Brown Wing. Once you get to the bookshelves, then you look for the complete call number.
INDEXES

Specialized periodical indexes are guides to the contents of a selected group of scholarly journals. Scholarly journals are those journals containing articles written by researchers and academic specialists whose audience is primarily other researchers, scholars, and students. You will use these types of indexes to locate articles related to your topic. By citing scholarly articles in your paper, you can substantiate the conclusions you make.

Subject indexes are usually issued on a regular basis. Bound volumes covering half a year or a year are common. Paperbound issues published throughout the year serve as updates to the most recent bound volume. You will need to check them for the latest information on your topic. You may also need to check several indexes since each index covers a somewhat different set of journals.

Many indexes may also be searched with a computer. Searching via computer allows you to combine two concepts, such as critical thinking and social studies education, and find citations to articles or reports which discuss both concepts. Computer searching also allows you to search multiple years of an index at one time and can provide you with a print-out of the results.

In this chapter, you will be introduced to three major indexes in the field of education: Education Index, ERIC, and Psychological Abstracts. You will learn the differences between the coverage of these indexes and how to identify the parts of a index entry. Also included are discussions of computer searching.
Education Index

Education Index, located on Index Table 5, indexes English language journals and yearbooks in all areas of education. It also contains a section listing citations to book reviews in the field of education. Although Education Index is a specialized index, there are similarities in arrangement between it and Readers' Guide to Periodical Literature. If you have used Readers' Guide, you will find it easy to use Education Index.

Typically the index is used in looking for journal articles on a particular subject. Subject headings appropriate for the example topic "Teaching methods to promote critical thinking skills in the social studies classroom," would be "Critical thinking" or "Social Studies." When using a printed index, you must look up each concept and then scan manually for articles which may discuss both.

If you look up "Social studies" as a subject heading, you will find a "See" reference to "Social sciences." Upon turning to "Social sciences" you will see that is the subject under which social studies articles are cited. Note that there is no controlled vocabulary or list of terms to use as with the Library of Congress Subject Headings in the Online Catalog. You must depend upon your knowledge of the terminology and the system of cross-references in the Education Index.

Example citation from Education Index

Social sciences

Main subject heading (printed in boldface type)

Citation to an article about "Social Sciences" in general.

Subdivision of the main subject heading describing a more specific aspect.

"See also" reference leading you to a related subject heading under which you may find additional information.

"See" reference leading you from a subject heading or subdivision that is not used by the index to one that is.

Field work

Research

See Social science research

Statistical methods

In order to choose from the citations listed in the index and to locate the periodical articles to which they refer, you must be able to interpret the index entries. The sample entry below illustrates the types of information given for each citation in Education Index.

1. CRITICAL THINKING  
   Main subject heading.

2. Teaching  
   Subdivision of main subject

3. Critical thinking in the social studies classroom: do we teach it?  
   Title and subtitle of the article.

4. G. Unks  
   Author of the article.

5. bibl  
   Abbreviation for a special feature (bibliography).

An abbreviation in lower case letters often follows the author's name and indicates that the article contains a special feature. A table explaining such abbreviations is located in the front of each Education Index volume.

6. Soc Educ  
   Abbreviated title of the periodical.

These abbreviations have initial capital letters. The table at the front of the index lists these abbreviations and furnishes the full titles of the periodicals.

7. 49  
   Volume number of the periodical.

8. 240+  
   Page number of the article. The + sign indicates that the article is continued on later pages of the same issue.

9. Mr '85  
   Date of the periodical.
It is important to write down the entire citation in order to make sure you will be able to locate the periodical article in the library. A few general suggestions on using Education Index are listed below.

1. Read the "Explanatory Notes" section.
   These general instructions are located in the front of each Education Index and will answer questions you may have about the index.

2. Use more than one issue to be sure you have found all the citations that you need.
   There may be more written about your topic in one issue than in another. It is also wise to record more citations than you expect to need because you may not be able to locate all the sources.

3. Search under more than one subject heading.
   Be resourceful in trying other pertinent subjects. Although the "See also" references will lead you to related topics, think of other aspects of your subject that may be used in the index.

4. Check the journal abbreviations in the front of each issue.
   You will save time if you know the exact title of the periodical for which you are looking.

Now check in the Education Index for articles relevant to your topic. Write down any citations you find which seem appropriate for your preliminary bibliography.
**ERIC (Educational Resources Information Center) SYSTEM**

The ERIC system includes two indexes: Current Index to Journals in Education (CIJE) and Resources In Education (RIE). The printed versions of each are published monthly, and both are located on Index Table 5. These indexes may also be searched by computer, as explained below.

CIJE includes citations and abstracts for journal articles; RIE includes the same for unpublished documents and reports. Both indexes may be useful for your research in education. The most common way to search these indexes is by subject. They share the same set of subject terms, called descriptors, which are listed in the Thesaurus of ERIC Descriptors.

**Thesaurus of ERIC Descriptors**

The Thesaurus of ERIC Descriptors lists the subject terms used in CIJE and RIE. The Thesaurus is to ERIC what LCSH is to the Online Catalog. It also indicates narrower terms, broader terms, and related terms in the list.

Start your search by using the Thesaurus to identify appropriate descriptors. In the case of the example topic, teaching critical thinking skills in the social studies classroom, there are several concepts involved: Teaching, Critical Thinking, Social Studies.

To look up descriptors you may start with any of the concepts in the topic, but usually it is a good idea to begin with one that has a narrow definition. In this example, "critical thinking" or "social studies" is slightly more focused than "teaching." So, you might look up the following in the Thesaurus:

<table>
<thead>
<tr>
<th>Descriptor</th>
<th>Scope Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL STUDIES</td>
<td>July, 1966</td>
</tr>
<tr>
<td>CIJE: 4207</td>
<td>RIE: 6106</td>
</tr>
<tr>
<td>SN</td>
<td>Social studies consist of additions of knowledge from the social sciences for teaching purposes at the elementary and secondary levels of education. Social Studies Units (1966-1980)</td>
</tr>
<tr>
<td>UF</td>
<td>Civics</td>
</tr>
<tr>
<td>BT</td>
<td>Curriculum</td>
</tr>
<tr>
<td>RT</td>
<td>Social Sciences, Anthropology, Controversial Issues (Course Content), Cultural Education, Current Events, Economics, Geography, History, Law Related Education, Locational Skills (Social Studies), Physical Science, Social Problems</td>
</tr>
</tbody>
</table>
This entry in the Thesaurus indicates that "Social Studies" is a descriptor for CIJE and RIE. It also lists other terms you might want to consider (Narrower Term, Broader Term, or Related Term). You will also find a descriptor for critical thinking. Once you have identified appropriate descriptors (you may find several for each concept), you are ready to use the printed indexes or to do a computer search.

Use the Thesaurus of ERIC Descriptors to identify terms that represent your topic. Make a list of what you find and divide them into concept groups (i.e., groups of descriptors that are related to each other).
CIJE indexes most of the major education journals. There is some duplication between CIJE and Education Index described in the previous chapter; however, there are journals in each not covered by the other index. CIJE does, however, include many more journals than Education Index.

Finding Subjects in CIJE

1. Look up one of the descriptors you have chosen in the Subject Index section of CIJE.

   **CIJE SUBJECT INDEX ENTRY**

   **Descriptor**
   Social Studies
   Using Adolescent Literature in Social Studies and Science. Educational Horizons; v55 n4 p162-64 Sum 1987
   EJ 355 215

   Introduction. Elementary School Journal; v87 n5 p489-91 May 1987
   EJ 355 921

   Political Socialization in Elementary Schools. Elementary School Journal; v87 n2 ; 93-505 May 1987
   EJ 355 922

   Improving Students' Thinking Skills through Elementary Social Studies Instruction. Elementary School Journal; v87 n5 p557-69 May 1987
   EJ 355 927

   Response and Responsibility: Reading, Writing and Social Studies. Elementary School Journal; v87 n5 p571-89 May 1987
   EJ 355 928

2. Scan the titles and write down all the information for each reference you want to read. Include the journal title (in italics), volume number, page numbers, and date.

3. If you wish to read a brief summary (abstract) of an article, look up the EJ (ERIC Journal) abstract number in the front of the same volume.

   **CIJE ABSTRACT ENTRY**

   **Abstract Number**
   EJ 355 927

   **Citation**
   Improving Students' Thinking Skills through Elementary Social Studies Instruction. Solomon, Warren Elementary School Journal; v87 n5 p557-69 May 1987 (Reprint: UMI)

   **Descriptors:** Social Studies; Elementary School Students; Cognitive Processes; Curriculum Development; Elementary Education; Problem Solving; Comprehension; Research; Decision Making

   **Identifiers:** *Thinking Skills; Researching (Behavior); Communication

   **Note:** Thematic Issue: Social Studies

   Identifies kinds of thinking that fit naturally into elementary social studies curricula, using models that are not complex. Models include general problem solving skills and skills pertaining to specific types of intellectual tasks, such as comprehending information, solving specific problems, researching topics, and making decisions (Author/RH)
4. Repeat this process for each descriptor you have chosen.

5. Check the Serials List at the Reference/Information Desk to verify whether or not the Library owns the issues of the journals you need and to get the call numbers. For more information about journals see the chapter "Locating Journals and Microforms."

Using the descriptors you identified in the Thesaurus of ERIC Descriptors, look in CIJE to see what journal articles are listed that are relevant to your topic. Write down the citations to a couple of articles.
RESOURCES IN EDUCATION (RIE)

As stated earlier, unpublished reports and documents are indexed in RIE. Included in RIE are citations to papers presented at conferences, state education agency reports (such as the Texas Education Agency), publications from local school districts, U.S. government documents, etc. The emphasis with RIE is on comprehensiveness. Therefore, there is a wide range of types of materials included, from practical descriptions of programs to scholarly research reports. The section "Evaluation of Sources" in this handbook provides some suggestions on how you can evaluate potential sources to see if they are research material.

Finding Subjects in RIE

1. Look up one of the descriptors you have chosen in the subject section of one of the "Index" volumes on the table. Each year of RIE consists of several volumes.

   RIE SUBJECT INDEX ENTRY

   Descriptor                    | ERIC Document Number
   -----------------------------|------------------------
   Critical Thinking            | ED 279 671
   Assessing Skills and Thinking in Social Studies.
   Counseling as a Critical-Thinking Activity.     | ED 278 896
   Reasoning in Argument Evaluation.                | ED 7 690
   Right Brain Activities to Improve Analytical Thinking. | ED 278 953

2. Scan the titles and write down the ED (ERIC Document) number following each title you want.

3. If you wish to read a brief summary (abstract) of a document, open the non-index volume on the table that includes the ED number you want. The ED number range of each volume is printed on the spine.

   RIE ABSTRACT ENTRY

   ERIC Document Number | TM 870 058
   ---------------------|------------------------
   ED 279 671

   Document Title
   Cribb, Catherine
   Assessing Skills and Thinking in Social Studies.
   Pub Date—86
   Note—22p.; One of 46 papers commissioned by the Study Group on the National Assessment of Student Achievement and cited in Appendix B to their final report "The Nation's Report Card" (TM 870 049). For other papers in this group, see TM 870 050-094.

   Pub Type—Opinion Papers (120)
   Identifiers—*National Assessment of Educational Progress

   Abstract
   A cognitive process approach is applied to this discussion of the nature and relationship of skills, thinking, and social studies knowledge. To make understanding explicit, the paper addresses: (1) the meaning of cognitive skills and their role in thinking; (2) generic versus specific skills; and (3) implications for the National Assessment of Educational Progress (NAEP)....
4. Repeat this process for each descriptor you have chosen.

5. RIE documents are on microfiche arranged by the ED number. Microfiche are located in the Current Journals, Microforms, and Media Room, 1st Floor Blue Wing.

NOTE: ED numbers that are followed by two slashes (e.g., ED 136 129//) are not on microfiche—the abstract will tell you how to get them, and some of them may be listed in the Library's Online Catalog. For additional help in locating these documents, ask at the Reference/Information Desk.

In addition to subject, you may also search RIE by institution (e.g., Social Sciences and Humanities Research Council of Canada), publication type (e.g., Guides - Classroom), etc.

Using the descriptors you identified in the Thesaurus of ERIC Descriptors, look in RIE to see what reports are listed that are relevant to your topic. Write down the title(s) and ED number(s) of a couple of reports.
**ERIC ON COMPACT DISC**

As mentioned at the beginning of this chapter, you can search both CIJE and RIE by computer. By using a computer you can search both indexes and multiple years (1966-1979 or 1980 to the present) simultaneously. You may also combine concepts or intermix concepts and publication types. In addition to descriptors, you may also search words in titles or abstracts. The ERIC database can be searched on computer workstations near the Reference/Information Desk. You can tell the computer what you want to retrieve by making selections from menus and lists. There are instructions on the screen and in a flip-chart next to the computer. Additional assistance is available from the staff at the Reference/Information Desk.

Using the system is similar to using the printed indexes in that you must first select the terms you want to search. You may wish to consult the Thesaurus of ERIC Descriptors before beginning a computer search. A computer search is different from the printed indexes in that you will not get a ready-made list of articles or documents to browse, as you would in the printed indexes. The computer will create a list based on what you tell it. One of the major differences is that the computer forces you to divide your topic into concept groups. You may start with any concept group, but you will need to include all concept groups to ensure that the resulting citations deal with the aspect of your topic that interests you. This is accomplished by searching any one of your concepts and then modifying and limiting it with your other concept groups. The illustration below outlines this process.

Select terms from the list for concept 1.

<table>
<thead>
<tr>
<th>CRITICAL THINKING</th>
<th>PROBLEM SOLVING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>End Group 1</td>
</tr>
<tr>
<td></td>
<td>with F10</td>
</tr>
</tbody>
</table>

Modify/Limit Group 1 with terms from list for concept 2.

<table>
<thead>
<tr>
<th>SOCIAL STUDIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>.</td>
</tr>
<tr>
<td>.</td>
</tr>
<tr>
<td>.</td>
</tr>
</tbody>
</table>
| . (You may continue to modify/limit as long as you like.)

End Group 2

with F10

Keep in mind that the computer does not "know" what you want unless you tell it via your selections on the screen.
The following screen diagrams are taken from an actual search on the same topic used above to illustrate searching ERIC on Compact Disc.

SELECTING TERMS FOR CONCEPT 1

Type in your first term and view the list of possible words and phrases in the Word/Phrase Index. In this example you might select "social studies."

<table>
<thead>
<tr>
<th>Term</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL STIMULI</td>
<td>4</td>
</tr>
<tr>
<td>SOCIAL STRATIFICATION</td>
<td>197</td>
</tr>
<tr>
<td>SOCIAL STRUCTURE</td>
<td>343</td>
</tr>
<tr>
<td>SOCIAL STUDIES</td>
<td>4,841</td>
</tr>
<tr>
<td>SOCIAL STUDIES CURRICULUM</td>
<td>5</td>
</tr>
<tr>
<td>SOCIAL STUDIES IN SECONDARY EDUCATION (REPORT)</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL STUDIES INSTRUCTION</td>
<td>2</td>
</tr>
<tr>
<td>SOCIAL STUDIES PRIORITIES AND NEEDS</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL STUDIES TEACHERS</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL STUDIES UNITS (1966-1980)</td>
<td>0</td>
</tr>
<tr>
<td>SOCIAL STYLE</td>
<td>2</td>
</tr>
<tr>
<td>SOCIAL STYLE MODEL</td>
<td>5</td>
</tr>
<tr>
<td>SOCIAL SUPPORT</td>
<td>26</td>
</tr>
<tr>
<td>SOCIAL SUPPORT GROUPS</td>
<td>868</td>
</tr>
<tr>
<td>SOCIAL SUPPORT INVENTORY</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL SUPPORT NETWORKS INVENTORY (FLAHERTY)</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL SUPPORT QUESTIONNAIRE</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL SUPPORT QUESTIONNAIRE (SARASON)</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL SUPPORT NETWORKS</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL SYSTEMS</td>
<td>1</td>
</tr>
<tr>
<td>SOCIAL THEORIES</td>
<td>1</td>
</tr>
</tbody>
</table>

Once you’ve chosen the terms for your first concept, press F10 and continue with your next concept.

SELECTING TERMS FOR CONCEPT 2

From this list of terms in the Word/Phrase Index you might select "critical thinking." You might also select "problem solving."

<table>
<thead>
<tr>
<th>Term</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITICAL SUCCESS FACTORS METHOD</td>
<td>2</td>
</tr>
<tr>
<td>CRITICAL TELEVISION VIEWING SKILLS PROJECT</td>
<td>8</td>
</tr>
<tr>
<td>CRITICAL THEORY</td>
<td>24</td>
</tr>
<tr>
<td>CRITICAL THINKING</td>
<td>1,364</td>
</tr>
<tr>
<td>CRITICAL THINKING SKILLS PERFORMANCE ASSESSMENT</td>
<td>1</td>
</tr>
<tr>
<td>CRITICAL VIEWING</td>
<td>17</td>
</tr>
<tr>
<td>CRITICALITY</td>
<td>10</td>
</tr>
<tr>
<td>CRITICALLY</td>
<td>610</td>
</tr>
<tr>
<td>CRITICALLY ILL</td>
<td>1</td>
</tr>
<tr>
<td>CRITICALLY UNPROFITABLE</td>
<td>4</td>
</tr>
<tr>
<td>CRITICIAL</td>
<td>1</td>
</tr>
<tr>
<td>CRITICISMS</td>
<td>1</td>
</tr>
<tr>
<td>CRITICIS</td>
<td>1</td>
</tr>
<tr>
<td>CRITICISMS</td>
<td>1</td>
</tr>
<tr>
<td>CRITICISING</td>
<td>1</td>
</tr>
<tr>
<td>CRITICISM</td>
<td>1</td>
</tr>
<tr>
<td>CRITICIZABLE</td>
<td>1</td>
</tr>
<tr>
<td>CRITICIZE</td>
<td>2,929</td>
</tr>
<tr>
<td>CRITICIZED</td>
<td>525</td>
</tr>
<tr>
<td>CRITICIZES</td>
<td>1</td>
</tr>
</tbody>
</table>

Once you’ve chosen the terms for your second concept, press F10 and continue with your next concept, if you have another.
COMBINING ALL CONCEPTS

The computer automatically combines the concepts groups you have created and indicates the number of results on the screen.

ERIC - CIJE & RIE 1980 - March 1988
1 4,841 Records with Word/Phrase Index of SOCIAL STUDIES
2 375 Records remaining, Limiting to those with Word/Phrase Index of CRITICAL THINKING or PROBLEM SOLVING
3 176 Records remaining, Limiting to those with Word/Phrase Index of ELEMENTARY EDUCATION or ELEMENTARY SECONDARY EDUCATION
4 38 Records remaining, Limiting to those with Year of Publication 1986 or 1987 or 1988

“What you retrieve

Title

Improving Students’ Thinking Skills through Elementary Social Studies Instruction.

Author

Solomon, Warren

Journal

Elementary School Journal, v87 n5 p557-69 May 1987

Abstract

Identifies kinds of thinking that fit naturally into elementary social studies curricula, using models of thinking that are not complex. Models include general problem solving skills and skills pertaining to specific types of intellectual tasks, such as comprehending information, solving specific problems, researching topics, and making decisions. (Author/RH)

Descriptors: Cognitive Processes; Comprehension; *Curriculum Development; Decision Making; Elementary Education; *Elementary School Students; Problem Solving; Research; *Social Studies

Identifiers: Communication; Researching (Behavior); *Thinking Skills

Next: Ctrl+PgDn
Assessing Skills and Thinking in Social Studies.

Cornbleth, Catherine
1986
22p.; One of 46 papers commissioned by the Study Group on the National Assessment of Student Achievement and cited in Appendix B to their final report "The Nation's Report Card" (TM 870 049). For other papers in this group, see TM 870 050-094.

EDRS Price - MF01/PC01 Plus Postage.

A cognitive process approach is applied to this discussion of the nature and relationship of skills, thinking, and social studies knowledge. To make understanding explicit, the paper addresses: (1) the meaning of cognitive skills and their role in thinking; (2) generic versus specific skills; and (3) implications for the National Assessment of Educational Progress (NAEP). Critical thinking is a skill frequently associated with social studies learning. However, attempts to detail a task analysis of critical thinking skill have met with problems: It is difficult to define a constant concept of

Note that these are the same citations as were found by using the printed indexes. If you wish to print your citations, you will need a Copicard (available in the Copy Center, Basement Red Wing). The charge for printing is 7¢ per page. You may also download your results to an MS-DOS formatted floppy disk for no charge.

To locate these items in the library, you would use the same procedures outlined above (i.e., use the Serials List for journal articles and the ERIC Document Microfiche collection for documents). To tell the difference between journal citations and document citations, note whether the second line of the Complete Record begins with an EJ or an ED. EJ means the item is a journal article; ED means the item is a document. The ED number (ED plus six digits) is necessary to locate the microfiche; the EJ number is of absolutely no use. More information follows in the section LOCATING JOURNALS AND MICROFORMS.

Use the terms you found earlier in the Thesaurus of ERIC Descriptors to search ERIC on compact disc. Display or print results. See if you find the same citations you found earlier when you searched manually in the printed indexes. Which do you prefer? Why? If you do not retrieve the citations, try changing your search strategy by using different search terms.
Psychological Abstracts

Psychological Abstracts, located on Index Table 6, is an important index for finding information in psychology journals. These journals often include articles on the psychological aspects of teaching and learning. There is some duplication in coverage between Education Index, ERIC, and Psychological Abstracts; however, there are journals included in Psychological Abstracts that are not included in the other two indexes.

Like ERIC, Psychological Abstracts has a subject index and an abstracts section. Therefore, using this index is much like using the ERIC indexes. Follow these steps when searching by subject:

1. To find an appropriate subject heading, check the Thesaurus of Psychological Index Terms on the table with the index. This is used the same way that you used LCSH and the Thesaurus of ERIC Descriptors. Each term used in the index will be printed in boldface type. Beneath each term you may find additional terms identified as UF (Used For, i.e., synonyms that have not been used), BT (Broader Terms), NT (Narrower Terms), and RT (Related Terms). Select any of these terms (except those labeled UF) that seem to describe your subject.

Of the two concepts in the example topic, social studies education is probably the more specific in a psychology reference source such as Psychological Abstracts.

EXAMPLE

Thesaurus of Psychological Index Terms

<table>
<thead>
<tr>
<th>Subject heading</th>
<th>Broader Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Structure</td>
<td>Social Studies Education</td>
</tr>
<tr>
<td>PM 97</td>
<td>PH 172</td>
</tr>
<tr>
<td>Society 67</td>
<td>Social sciences education in elementary, junior high, and high schools. Includes history, current events, and political science.</td>
</tr>
<tr>
<td>Class System 73</td>
<td>B Curriculum 67</td>
</tr>
<tr>
<td>Lower Class 73</td>
<td>SC 48415</td>
</tr>
<tr>
<td>Middle Class 79</td>
<td></td>
</tr>
<tr>
<td>Social Class 79</td>
<td></td>
</tr>
<tr>
<td>Upper Class 79</td>
<td></td>
</tr>
<tr>
<td>R Dominance Hierarchy 79</td>
<td></td>
</tr>
<tr>
<td>Status 67</td>
<td></td>
</tr>
</tbody>
</table>

2. Look up the subject headings you have chosen in the annual (starting with 1984) or semiannual (before 1984) subject index. Index volumes are labeled with the word Index.
3. Under each subject heading will be a list of descriptive titles highlighting key concepts in each article, followed by an abstract number.

**EXAMPLE FROM INDEX VOLUME**

Social Studies Education
citizenship education in social studies curriculums & need for &
methods of presocial education, 21673
educational program taught by teacher education students &
combining study of Mexican culture & Spanish language, 1st
graders, 10623
epistemological philosophical assumptions, social studies teachers.
2447
Kinder-Economy Instructional System, attitudes toward work &
reward allocation, kindergartens, 18520
methods for improving reading in social studies, literature review,
24430
reading ability & method of teaching, social studies achievement,
4th graders, 21662
secondary headmasters' reports on students & A level grades,
apademic performance in social science honors degree course,
university students, Great Britain, 16167
small group instruction in social studies classrooms, criticism of
current ideas on relationship between critical thinking & individ-
ualization, 2462
social research on social studies classrooms, literature review, 2419

4. Note the volume number on the spine of the index, find the corresponding volume of abstracts that includes your abstract numbers, and locate the abstracts within it to find the citations to the articles you want. Note: Each annual or semiannual volume of abstracts starts over with Number 1; therefore, be sure that the volume numbers of your index and abstracts match, or the citations you find at your numbers won't be the ones you were looking for. For example, if you looked in the Index to Volume 71 and found that abstract number 2462 looked relevant, you would next check the Abstract Volume 71 which contained 2462.

**EXAMPLE FROM ABSTRACT VOLUME**

2462. Common, Dianne L. (Simon Fraser U., Faculty of Educa-
tion, Burnaby, Canada). Small group instruction in social studies
classrooms and the corruption of critical thought. Theory &
Attempts to expose a faulty relationship between 2
metaphors—critical thirt.ing and individualization—that are be-
lieved by most curriculum experts and teachers to determine what
ought to occur in social studies education and the classroom
practice—small group instruction—that is assumed to be guided by
them. It is argued that small group instruction as it is typically
practiced in social studies classrooms does not have as a probable
goal critical thinking; in fact, small group instruction most likely
will corrupt thinking. To support this claim, the author examines
the social realities of teaching and the type of groups that occur in
this environment. (37 ref)
If you are searching current monthly issues of Psychological Abstracts for which no cumulative annual index has yet been published, use the brief subject index at the back of each issue. There are no descriptive titles in these brief indexes, only numbers referring to the abstracts in the front of the issue.

When searching older volumes of Psychological Abstracts, you may prefer to use the multi-year indexes on the opposite side of Index Table 6. Each listing gives you the volume and abstract number to search.

You may also search Psychological Abstracts by author. Beginning with 1984 an author index volume is a separately bound part of the annual index. Prior to 1984 the author index can be found at the beginning of the subject index. Cumulative multi-year author indexes are on the opposite side of the index table.

Psychological Abstracts may also be searched by computer. For more information, see the section "Computer Searching" in this handbook.

First, check in the Thesaurus of Psychological Index Terms to find what subject headings apply to your topic. Next, check in Psychological Abstracts to see if any relevant articles have been indexed. The costs for searching this index by computer can be high, so it is a good idea to first see if you are able to retrieve the information you need using the printed index.
LOCATING JOURNALS AND MICROFORMS

Several of the preceding sections have shown you how to use indexes to find citations to articles in journals. When you find a citation to an article you want to see, be sure to write down all the information you will need to locate the article:

1. Author and title of the article
2. Full title of the journal (not the abbreviation)
3. Volume number and date of the journal issue
4. Page numbers for the article

Locating Journals in the Library

Recent issues of journals (generally the current year) are located in the Current Journals, Microforms, and Media Room and are arranged on the shelves by call number. At regular intervals these issues are collected by the Library, bound into volumes and shelved with the books in the general collection. If you need an older issue, check the call number on the Call Number Locations Chart and look for the bound volume in the bookstacks the same way you look for books. When journals are sent to the bindery, the issues are out of the Library for a month. See TROUBLE SHOOTING for more information.

To determine whether the Library owns the particular issue of the journal or newspaper you need and to get the call number, you need to use the Serials List.

Using the Serials List

The Serials List, a computer print-out in several volumes, is an alphabetical listing of journals and newspapers in the Library. It also gives the call number and information on which issues or volumes the Library owns. Copies of the Serials List are located at the Reference/Information Desk, in the Current Journals, Microforms, and Media Room, and on floors 2-5, near the Brown Wing elevators.

Note the following hints on how to find entries in the Serials List:

1. Most journals are listed alphabetically by journal name (e.g., Teacher Educator).

2. Publications of organizations and associations are sometimes listed under the name of the organization (e.g., National Art Education Association).
3. Acronyms and abbreviations are listed at the beginning of each letter in the alphabet before any full words beginning with that letter (e.g., G/C/T is listed at the beginning of the "G's," before Garden History).

4. Sometimes there will be two listings for a particular journal. There may be a copy in a branch library and a copy in the main library, or a copy on microfiche and a paper copy. Each copy will have a separate listing in the Serials List.

**EXAMPLE - Serials List**

<table>
<thead>
<tr>
<th>CALL NUMBER</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L11/S55</td>
<td>American Journal of Education 1979- (Holdings Information)</td>
</tr>
<tr>
<td></td>
<td>CONTINUES: School Review (Note about former title)</td>
</tr>
</tbody>
</table>

The HOLDINGS INFORMATION, given under the journal title, tells you what volumes or years of that journal the Library owns ("holds"). In this example, the dashes mean that the Library owns all issues of American Journal of Education, beginning with volume 88, which was dated 1979. The note beginning "CONTINUES" indicates that there was a change in the title of the journal. Issues before volume 88, 1979 will be found under the journal's earlier title, School Review. Just as with any other item in the Library, you need to write down the call number (L11/S55) in order to find the journal itself. Directions on how to use the Serials List are printed in the front of each volume.

**Locating Materials on Microfilm or Microfiche**

The entry in the Serials List may tell you that the journal or newspaper you need is on microfilm or microfiche.

**EXAMPLE**

**SERIALS LIST**

<table>
<thead>
<tr>
<th>CALL NUMBER</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIC ROOM/MIC-FILM/ S316</td>
<td>SOCIOLOGY AND SOCIAL RESEARCH. (MICROFILM) 1927-1967. CONTINUES: JOURNAL OF APPLIED SOCIOLOGY.</td>
</tr>
</tbody>
</table>

"MIC ROOM" means that the journal is located in the Current Journals, Microforms, and Media Room. The call number is S316. Microfilm and microfiche materials are filed in cabinet drawers by the call numbers. Machines are located nearby that you can use to read the article or to make a paper copy. Staff at the service desk can help you use the machines.
FINDING GOVERNMENT DOCUMENTS

The Federal Government produces a wide variety of publications that are of interest to education researchers. Most government documents owned by the Library are not listed in the Online Catalog or in the Serials List. The standard way to identify documents is to use the Monthly Catalog of U.S. Publications on Index Table 19.

The Monthly Catalog lists government documents just as the Online Catalog lists books, but the Monthly Catalog is a printed index similar to a periodical index. You may also use the same subject headings that you used in the Online Catalog (i.e., from Library of Congress Subject Headings). For specific directions on how to use the Monthly Catalog, consult the Library Guide MONTHLY CATALOG, available at the Reference/Information Desk.

SAMPLE MONTHLY CATALOG CITATION

87-7310 ED 1.322:T 34
Maxwell, Laurie.
III. Series: Research in brief (Washington, D.C.) OCLC 15234124

Shortcuts

Sometimes there are easier ways to find government documents on your topic than using the Monthly Catalog. If your need fits one of the categories listed below, use the suggested source:

1. You need a document with statistical data or charts. Use the American Statistics Index, discussed in the SOCIAL STATISTICS Library Guide and below.

2. You need a document that is published regularly (e.g., The Condition of Education, which is annual) and you already know the title. Use Andriot's Guide to U.S. Government Publications, available at the Reference/Information Desk.

3. You need a Congressional hearing or report. Use the CIS Index on Index Table 19. Staff at the Reference/Information Desk can show you how.

4. You need a document published before 1976 and you have the exact title. Use the cumulative title index to the Monthly Catalog on Index Table 19.
FINDING STATISTICAL INFORMATION

American Statistics Index

The American Statistics Index (ASI), located on Index Table 18, indexes statistical publications of the Federal Government. Some of the publications included in ASI can also be found by using the Monthly Catalog, but ASI includes many more statistical publications than the Monthly Catalog, and its indexing is sometimes more thorough. The following example citation will give you an idea of the types of items indexed in ASI.

SAMPLE ASI ENTRY


There are two other statistical indexes available on the same index table in the Library. Statistical Reference Index covers statistical publications from state governments and private associations. The Index to International Statistics covers international statistical publications such as those published by the United Nations. Most of these publications are available on microfiche in the Library. The Statistical Abstract of the United States, available at the Reference/Information Desk, is another helpful compilation of data collected by the U.S. Federal Government. If you have any questions about using these sources, consult the Library Guide SOCIAL STATISTICS or ask for assistance at the Reference/Information Desk.

If you feel government reports or statistics would help substantiate your research, check in the Monthly Catalog or ASI to see if there is any relevant material.
COMPUTER SEARCHING

Computer searching is simply the use of a computer to find information. Searching with a computer enables you to search in ways that are not possible in a printed product. Computer searching is especially helpful in Step 3 of a typical research strategy - preparing a preliminary bibliography.

Why Search Via Computer

If your topic involves multiple concepts, such as the example topic, "teaching critical thinking in the social studies classroom", a computer search is particularly appropriate. The computer allows you to combine concepts, thus retrieving citations to materials that deal with all of your concepts.

If your topic entails buzzwords (e.g., CORT), new terminology (e.g., hypertext), or proper names (e.g., Stanford-Binet), computer searching allows you to retrieve citations to documents addressing your topic even if the terms you use do not appear as subject headings.

Sometimes computer databases are more current than printed sources. If you need the latest research on a topic, then a computer search may be appropriate. Note, however, that in some cases the monthly printed index may be the most current information.

A computer search may also save you time in finding information about your topic since computer searching allows you to search many years at once.

Computer Searching Options

1. Search a database via compact disc in the Library.

This option is explained in more detail in the previous section on ERIC. The computer workstations are located behind the Reference/Information Desk. This option is available to anyone all the hours the Library is open, and assistance is available from staff at the Reference/Information Desk during the hours that the service desk is open. Searching and downloading are free; printing costs 7¢ per page. (Note: Each compact disc product works differently.)
2. Search a database online.

You connect to a remote mainframe computer that provides access to many different databases covering a wide variety of subject areas. There is a charge for online searching, but the cost can be quite reasonable if you do the searching yourself and plan your strategy properly before beginning.

You may do online searching in one of the following ways:

A. You do the search in the Library.

You read a short manual telling you how to formulate your strategy and how to use the computer system. The manual is available at the Reference/Information Desk and the Reserves Desk. Librarians are available to give advice on planning your strategy. You then use a computer yourself to retrieve any relevant citations. This service is known as Quick Search. It is available by appointment evenings Monday through Thursday and afternoons Saturday and Sunday. The cost is quite low compared to option B below. Ask the staff at the Reference/Information Desk for further information. Quick Search is available to anyone.

B. A librarian does the search in the Library.

A librarian discusses your topic with you and helps you plan a search strategy. The librarian then uses a computer to retrieve any relevant citations. This service is by appointment and is available Monday - Friday from 9 to 6. Searching done by librarians is restricted to UH students, faculty, and staff. This is a more expensive option.
C. You do the search at home.

You get your own password from one of the companies that offer online searching. As with option A, you plan your own strategy, and librarians are available to consult for any questions you might have. You then use your own equipment at home and do the search at your convenience. For a listing of low-cost home services, stop by the Reference Offices on the 1st Floor of the Library.

Select the Most Appropriate Database(s)

In addition to deciding which computer searching option you prefer, you will also need to determine which databases to search. While in most cases there are no right or wrong databases, one or two databases may be clearly more appropriate. One of the goals of this handbook has been to introduce you to the major indexes and databases available for educational research. Staff at the Reference/Information Desk can help you with questions about selecting databases as well as selecting printed indexes.
Trouble-Shooting

The education materials in the Library are heavily used. At some point in your research you will most likely find that something you need is not on the shelf or that the Library does not own an item you need. This section discusses options available for use in those cases.

Basic Services

RECALL - If a book you need is checked out, you may request at the Circulation Desk that the book be recalled. The person who has the book checked out will be asked to return the book after having had it one week. Library staff will notify you when the book is returned.

SEARCH - If a book is not checked out and you cannot locate it on the shelf, or if you cannot find a volume of a journal, you can place a request for a search with the staff at the Circulation Desk. They will look for the item and notify you when they find it.

REFERRALS - If we do not own the journal issue or book you need, staff at the Reference/Information Desk can help you determine which Houston area libraries have the item.

INTERLIBRARY LOAN (ILL) - If we do not own the item you need, we can borrow a book or get a photocopy of an article for you from another library. The service is free; however, it takes an average of 4 weeks to get materials through ILL, so you need to allow plenty of time. If you have questions about ILL, ask the staff at the Reference/Information Desk for additional information.
The following section summarizes common problems and possible solutions to try.

No issues of a journal we own are on the shelf.

A. Recheck the call number in the Serials List.
B. Check with the staff at the service desk in the Current Journals, Microforms, and Media Room.

The journal issue you need is missing.

A. Recheck the Serials List to make sure we own the journal issue.
B. Check the Reshelving Area, 3rd Floor Red Wing.
C. Check around photocopy machines.
D. Check at the service desk in the Current Journals, Microforms, and Media Room to verify where the issue is suppose to be.
E. Check the Serials List to see if there is a second copy on microfilm or in a branch library.
F. Have a search placed on the issue at the Circulation Desk.

The pages you need are missing.

First, turn in the volume to the staff at the Circulation Desk. We will get the pages replaced.

A. Check the Serials List to see if there is a second copy on microfilm or in a branch library.
B. Ask the staff at the Reference/Information Desk to refer you to a Houston area library.
C. Request the material through ILL.
A journal issue is at the bindery.

We send journals out to be bound into book volumes. This process usually takes about a month.

A. Check the Serials List to determine if there is a second copy on microfilm or in a Branch Library.

B. Ask the staff at the Reference/Information Desk to refer you to a Houston area library.

LIBRARIAN'S ADVICE

1. **START EARLY.** Research takes time.

2. If you have trouble finding the item you need, ask for assistance at the Reference/Information Desk or at the Current Journals, Microforms, and Media Service Desk.

3. As you compile your preliminary bibliography, be thorough. Write down all the relevant citations you find in each source (index, catalog, etc.) so that you will have more than enough citations in case you later have trouble finding some of the materials. This may save you a lot of time in the long run.

4. Keep track of where you have looked and which subject headings you used in case you need to go back to an index to locate additional sources later.

5. Be persistent.
EVALUATION OF SOURCES

Appropriateness of Materials

When you are collecting materials for a research project or paper, it is important to keep in mind that not all items are equally appropriate. Different publications serve different purposes. For instance, The Chronicle of Higher Education is a well respected newspaper that reports news of local and national activities that affect the operation of schools, colleges, and universities at all levels in the higher education system. The American Journal of Education, on the other hand, publishes reports on the latest scholarly research in the field of education. One is not more important than the other; rather, they serve different functions.

Depending on your topic and the depth of your paper, you may need to limit your bibliography to one type of material. That is not to say that you will not use other types of material in the process of doing research. You may begin with an article in the Encyclopedia of Education that may refer you to a book that may quote a journal article dealing with related research. This article may be ten years old, but it may yield the name of someone who has written in that specialty. With this name you may be able to locate other reports of current research in progress.

The point here is that different types of sources perform different functions at various points in the research process. As you compile your final bibliography, however, you will want to include only those items that are most appropriate. Below are some guidelines to help determine the value of particular items for your research.

Specific Clues

There are a number of ways to determine the value of a particular item for your research. First, you must decide the nature of your paper or project. Are you writing about research conducted by others on critical thinking? Are you presenting popular views on the state of public education? Are you compiling a history of social studies teaching? Or are you yourself measuring the effects of classroom techniques on student achievement?

Each of these approaches may require different types of sources. You can avoid certain sources that will be non-productive if you know ahead of time the nature of your paper or project.
You may be able to determine the value of a book for your research based on the author or the publisher. If you've read something useful by a particular author or if he or she is well known for research in your area of interest, search for all of his or her work on your subject. These are likely to be important publications.

Just as individuals become known for their contributions to a particular field, so do publishers. Some publishers are highly specialized in certain areas of research. Others are more general in scope. Once you have identified a few books that are relevant to your topic, note who wrote them and who published them. This information may assist you in evaluating other items that you find.

The most common and most time-consuming way to evaluate material is to read the books and articles that you find. Although nothing can replace reading and analyzing the content of a book or article, there are some clues that can help you identify those items which will be most productive for you. These methods can assist you in determining what to read first, but do not depend entirely on them.

**Books**

Glance at the table of contents. The organization of thoughts as presented in the table of contents will provide an outline of the author's position. The information there will also give you an idea about the depth of treatment covered in the text.

Skim the preface. The opening remarks before the first chapter often express the author's intent in writing the book. Usually, this short note will assist you in determining the focus and value of the book to your research.

Check for bibliographies. Lists of materials the author consulted are frequently printed at the end of each chapter or at the end of the whole book. Books that do not include such a list may not be regarded as scholarly. This is not always true, but bibliographies are generally expected in research-oriented texts. The appearance of bibliographies not only indicates the value of a book, but also provides additional references for you to consider.
Journal Articles

Check the publication process for the journal. Scholarly journals send all submitted papers through a refereeing process. Each paper is reviewed by specialists who determine its value in comparison to other literature in the field. Journals that do not use this process are more likely to print non-research-oriented papers. Some journals print these editorial policies in each issue; others print them once a year.

Check the publication credits in the journal. Most journals have a brief statement about their mission, usually printed on one of the first pages in each issue. This statement will tell you if the journal has a particular focus or bent, if the journal is intended to report research or items of general interest, or if it serves a specific constituency.

Check the publisher. Many professional journals are published by organizations or associations. This information usually appears on one of the first pages in each issue. Depending on the major thrust of the organization, you may be able to determine whether or not its publications are worth reading or citing. Some associations publish more than one journal. If this is the case, one may be a newsletter covering events and people to keep members up to date, and the other journals may print research in various specialties.

Check for advertisements. Most scholarly journals have few, if any, advertisements printed in them. If a journal has many ads, it is probably a general-interest or news magazine. Some professional journals include advertisements for items that are of interest to that profession. Advertisements, however, usually indicate commercial, mass-market publications, not the type of source you should prefer to quote in a research paper.

Check the organization of the article. Most research articles follow a standard outline of presentation: Statement of the problem, review of the literature, research method employed, results, discussion, conclusion. Although there are many variations on this theme, each of these elements will be present in a research article. Sometimes it is not possible to determine if this outline has been followed without reading the article. Other times the subheadings printed in the article will indicate where each section begins.
Documents

The value of documents can be determined in a similar fashion. One additional clue is the sponsor of the research reported. Many government agencies and professional associations sponsor research projects. Reports generated by these projects will cite these sponsors. If a document cites a respected educational association as its sponsor, it is more likely to have scholarly merit than those items that do not.

Another Perspective

Sources may also be divided into three categories: primary, secondary, and tertiary. Primary sources are direct reports of what the author has done, i.e., original research. Secondary sources report what others have done, what's new in the field, reviews of research in progress, etc. Tertiary sources are compilations of established knowledge, such as found in encyclopedias and handbooks. Although all three types of sources can be very helpful, it is important to cite research as it is reported by the persons doing it, if at all possible. "Get it from the horse's mouth," so to speak.

Conclusion

You will note many "maybes," "probablys," and "most likelies" in the discussion above. This is because none of these are guaranteed rules; they are simply guidelines. Sometimes they may work; other times they will not. It is important to keep in mind that nothing replaces reading the book, article, or document. However, you may not be able to read everything. These guidelines can assist you in determining which items are most crucial to your research and which are of lesser importance.
FORMATTING YOUR FINAL BIBLIOGRAPHY

Once you have decided which citations you want to include in your final bibliography, you will need to put them into an appropriate format. The College of Education requires that you follow the guidelines established in the Publication Manual of the American Psychological Association (short title: APA Style Manual), available at the Reference/Information Desk. The APA Style Manual describes one way to write and publish research, including citing references.

The manual is easy to use with an index and a table of contents. Pages 118-133 list numerous examples of different types of publications you may need to cite (e.g., journal articles, books, dissertations, etc.). There is a special index to these examples on pages 118-119. Below are three examples of the most common publication types taken from the sample topic:

**BOOK**

**Catalog Citation (FULL Record)**

**AUTHOR:** Chance, Paul.
**TITLE:** Thinking in the classroom: a survey of programs / Paul Chance; foreword by Ronald S. Brandt.
**IMPRINT:** New York: Teachers College Press, c1986.
**PHYSICAL FEATURES:** xii, 164 p.; ill.; 23 cm.
**NOTES:** Includes index. * Bibliography: p. 152-159.
**SUBJECTS:** Creative thinking (Education) * Thought and thinking -- Study and teaching. * Problem solving -- Study and teaching.
**LC CARD:** 85017335
**ISBN:** 0807727946 (pbk )

**APA Format**


**JOURNAL ARTICLE**

**Index Citation**

Improving Students' Thinking Skills through Elementary Social Studies Instruction. Solomon, Warren. Elementary School Journal, v87 n5 p557. 05 May 1987 (Reprint: UMI)

**APA Format**

Index Citation

Cornbleth, Catherine. Assessing Skills and Thinking in Social Studies. 
Pub Date—86
Note—22p.; One of 46 papers commissioned by the 
Study Group on the National Assessment of Stu-
dent Achievement and cited in Appendix B to 
their final report “The Nation’s Report Card” 
(TM 870 049). For other papers in this group, see 
TM 870 050-094.
Pub Type — Opinion Papers (120)
EDRS Price — MF01/PC01 Plus Postage.

APA Format

Cornbleth, C. (1986). Assessing skills and thinking in social 
studies. Cambridge, MA: National Academy of Education, Study 
Group on the National Assessment of Student Achievement. 
(ERIC Document Reproduction Service No. ED 279 671)

Note: ERIC documents are not necessarily easy to cite. APA 
format requires that you cite a sponsor if one exists. This 
information is usually found in the citation or the document 
itself. Occasionally, as in this example, you will need to do 
additional digging to find the name and geographic location of 
the sponsoring organization or institution. You may be referred 
to another ERIC document or you may need to use other reference 
 sources. For assistance in doing this, ask at the Reference/ 
Information Desk.

This section has briefly outlined APA format for citations in 
your annotated bibliography. When you eventually write your 
paper, you may append to your paper the references you actually 
use. For examples of how to cite these references in the text of 
your paper, refer to pages 107-111 of the APA Style Manual.