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ABSTRACT
        Comprehensive rules, guidelines, and examples are
provided for use by ERIC indexers and lexicographers in developing
and maintaining the "Thesaurus of ERIC Descriptors." Evaluation and
decision criteria, research procedures, and inputting details for
adding new Descriptors are documented. Instructions for modifying
existing Thesaurus terminology are provided, as are procedures for
justifying these actions. Details are included on the present-day
Vocabulary Development Program that involves all ERIC components and
users in the ongoing activities of Thesaurus development. Definitions
and functional descriptions are given for the general concepts of
"thesaurus" and "descriptors" and for the individual elements
included in a standard, structured thesaurus unit, i.e., Main Term,
Descriptor Group, Scope Note, UF/USE References, Narrower Terms,
Broader Terms, and Related Terms. The purpose and use are described
for each of the four sections of the ERIC Thesaurus: Alphabetical
Display, Rotated Display, Hierarchical Display, and Descriptor Group
Display. Discussions are provided on the use and control of
educational terminology, both generally and within the context of the
decentralized ERIC Clearinghouse network. Section appendices include
a history of the ERIC Thesaurus and some examples of microcomputer
templates used for Thesaurus update transactions. (JH)

ERIC

Processing Manual

**Rules and Guidelines for the Acquisition, Selection,
and Technical Processing of Documents and Journal
Articles by the Various Components of the ERIC Network**

Section VIII:
Vocabulary Development and Maintenance
(Part I)—Descriptors

May 1992

Educational Resources Information Center (ERIC)
U.S. Department of Education

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SUMMARY OF SIGNIFICANT RULES

1. ERIC's indexing vocabulary provides standard, controlled, subject-concept entries for use in printed indexes and computer-manipulatable files. Entries must represent concepts found in actual documents/articles processed by the system. Control is necessitated by variability found in the language of documents and the language of system users.

2. ERIC's indexing vocabulary consists of Descriptors and Identifiers. Descriptors are meaningful terms or short phrases that, for the most part, represent general classes of things found in the literature. Multiword Descriptors are used whenever single-word Descriptors cannot adequately describe concepts in the literature. Descriptors (singly, or two or more in coordination) will usually adequately represent the ideas and concepts found in a document/article. To identify specific entities (such as pieces of equipment, geographic areas, and other proper nouns and noun phrases), however, Identifiers must be used. Identifiers add a depth to indexing that is not always possible with Descriptors alone. Identifier indexing is intended to supplement Descriptor indexing and is, therefore, to be done in addition to (rather than in lieu of) Descriptor use. Descriptors are defined, interrelated by a system of cross-references, and alphabetically displayed in the *Thesaurus of ERIC Descriptors*. Identifiers are alphabetically displayed in the *Identifier Authority List* (IAL), which serves as a companion volume or supplement to the *Thesaurus*.

3. The *Thesaurus of ERIC Descriptors* is a list of several thousand formally controlled terms. Many terms in the *Thesaurus* refer from "non-preferred" forms to preferred terminology. Descriptors represent the preferred (i.e., indexable) entries. Non-preferred terms (i.e., USE references) are either: (1) synonyms and other variant word forms; or, (2) concepts that are seldom used in the literature covered by ERIC and that can be searched equally well under a broader entry.

4. The *Thesaurus* is displayed in four sequences: Alphabetical Display (primary arrangement); Rotated Display; Hierarchical Display; and Descriptor Group Display. Only the full entries in the Alphabetical Display should be used for direct indexing (or searching). The abbreviated entries in the three secondary displays serve as indexes, in effect, to the Alphabetical Display.

5. Not all Identifiers are proper nouns. Any term or phrase new to the literature will, as a rule, first be "tried out" as an Identifier before it gains Descriptor status. This practice allows a concept to be monitored while information about its usage and/or acceptance among various authors is accumulated. Frequency of indexing occurrence is an important consideration in deciding whether to add a new conceptual-type term to the *Thesaurus*.

6. Indexers have the responsibility of recommending changes to the *Thesaurus* when they find subject concepts in the literature that cannot be expressed or indexed adequately with the existing terminology. Each Clearinghouse must assume a proportional share of vocabulary activities, if a balance across subject areas represented in the vocabulary is to be maintained. As a general "rule of thumb," concepts should be considered candidate Descriptors after 5 usages as Identifiers, and should be included somewhere in the structured *Thesaurus* vocabulary (either as preferred or as non-preferred terms) after approximately 10 usages. Excluded from this rule are, of course, those Identifiers representing proper nouns that cannot qualify for Descriptor status.

7. The Vocabulary Development Form, whether the original pre-printed paper form or a microcomputer-prepared

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substitute template, is the input form to be used for all *Thesaurus* transactions, whether adding a term, deleting a term, or modifying an existing term's display. The choice of paper form or computer template is left to the preparer's discretion. The form permits entry or change of all cross-references, including Used For (non-preferred) terms (UF), Narrower Terms (NT), Broader Terms (BT), and Related Terms (RT). It also accommodates input or revisions of Scope Notes and Group Codes. Full justification must be provided on the Vocabulary Development Form for each *Thesaurus* transaction. Authorities must always be cited for new Descriptors, or for redefined or merged existing Descriptors. A minimum of three authorities must be cited for each definitional Scope Note prepared. Care should be taken to avoid parochial points of view. Compromise may be necessary when the terminology needs of separate areas of specialization are in conflict.

8. Assignment of a Group Code refers to the placement of a particular Descriptor in one, and only one, of 41 Descriptor Groups (broad subject categories that provide a *Thesaurus* overview). Scope Notes are brief statements of intended usage, for the purpose of either restriction or explanation; they should not be construed as formal definitions, but as indicators of how terms are (or should be) used in indexing. Instructional notations frequently are part of Scope Notes. These notations direct the *Thesaurus* user to other terms, indicate proper coordination, provide historical notes on changes in usage or cross-reference structure, or otherwise guide and explain preferred usage for both indexing and searching. Because of the inherent "softness" or imprecision of educational terminology, ERIC carries Scope Notes on all Descriptors whose meanings or intended usages are not self-evident.

9. A significant tenet of the ERIC vocabulary development process is the practice of keeping the authority files and the index (postings) files synchronous, i.e.,

    ● As a new term is added to the authority files, a special effort is made to locate uses of the term and its variants in the database and to update its postings accordingly.

    ● When an obsolete or ambiguous term is removed from the authority files, every effort is made to also delete the term from the postings files.

    ● Some changes require manual reindexing (i.e., individual examination and reindexing of original records). Ambiguous terms whose prior usages cannot be conveniently re-examined, may be made invalid.

10. *Thesaurus* cross-references are subject to the following basic rules:

    ● The NT-BT relationship is one of class membership. An NT must be entirely a member of the class defined by its BT. Called hierarchical, the NT-BT relationship provides the capability for fine-tuning indexing and searching processes to the most appropriate (i.e., specific) level of subject matter.

    ● Close conceptual relationships among Descriptors not in the same hierarchy are displayed via the RT cross-reference.

    ● All cross-references are reciprocal, i.e., for every entry, a corresponding complementary entry must appear elsewhere. That is, for every UF entry, there is a USE reference; for every NT, there is a BT; for every BT, there is an NT, for every RT, there is another RT. It is not necessary for the preparer of a Vocabulary Development Form to generate cross-reference reciprocals, as this is done automatically by the *Thesaurus* software.

11. The principal mechanics of Descriptor construction are as follows:

    ● Abbreviations and acronyms should generally be avoided as Descriptors; they may be treated as non-indexable USE references.

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- Maximum length of Descriptors and USE references is 50 characters, including blanks (i.e., spaces between words).

- Noun forms are preferred to verb forms (e.g., PUBLICITY, not PUBLICIZE).

- The plural form is used for "count nouns" (e.g., APTITUDE TESTS), about which one may ask "how many?"

- The singular form is used for "mass nouns" (e.g., AUDIENCE PARTICIPATION), about which one may ask "how much?"

- Descriptors and USE references judged to be homographs must have parenthetical qualifiers (e.g., CASE (GRAMMAR)).

- Sex neutral Descriptors are preferred when a concept is intended to refer to both sexes (e.g., SEAFARERS, not SEAMEN). Sexist terminology that commonly appears in the literature may be entered as USE references.

- Descriptors may consist of alphabetic characters, Arabic numerals, left and right parentheses, and blanks. Other characters are not acceptable.

- Inverted entries (e.g., PLANNING (FACILITY)) should be avoided. The Rotated (i.e., permuted) Display obviates the need for inverted entries.

12. The Vocabulary Development Program provides a system-wide participatory mechanism for coordinating and implementing changes to the ERIC *Thesaurus*. Through the Vocabulary Review Group, ERIC Clearinghouses and selected users are given the opportunity to review all proposed changes and additions prior to final review/implementation by the ERIC Facility.

VIII. VOCABULARY DEVELOPMENT AND MAINTENANCE (PART 1) -- DESCRIPTORS

A.   Introduction

A vocabulary for information retrieval provides standard, controlled, subject-concept entries for use in printed indexes and computer manipulatable files. Without vocabulary control, concepts become scattered under many variant entry forms, with a consequent loss in system utility.

The *Thesaurus of ERIC Descriptors* is the principal indexing vocabulary used in the ERIC system and is the basis for most of the subject entries in the ERIC database. The *Thesaurus* is a list of several thousand cross-referenced, single-word and multiword concepts representing the subjects found in the database. Many terms in the *Thesaurus* refer from "non-preferred" forms to preferred terminology. Preferred entries in the *Thesaurus* are labeled "Descriptors." Non-preferred terms are either: (1) synonyms and other variant word forms, or (2) concepts that are seldom used in the literature covered by ERIC and that can be searched equally well under a broader entry.

Subject entries in ERIC's indexes and computer files that are not Descriptors are based on a companion volume to the *Thesaurus*, the *Identifier Authority List* (IAL). Identifiers are usually names of specific entities (i.e., proper names) and serve as indexing adjuncts to Descriptors; they may also represent subjects that have only recently been introduced to the ERIC database and, as yet, have not been accepted as *Thesaurus* terms.

The field of education covers most areas of knowledge. The list of conceivable subjects covered by writers in the field, and the variety of ways those writers use to express the same subject, would be troublesomely long and overlapping without some term-use restrictions. The *Thesaurus* and IAL specify such restrictions for ERIC.

Section VIII of the *ERIC Processing Manual* covers these two publications and the development and maintenance of their terminology, in separate discussions: Part 1 -- Descriptors; Part 2 -- Identifiers.

1.   Thesaurus -- Definition and Function

The word "thesaurus" comes from the Greek word for treasure or treasury. Roget's famous thesaurus is a treasury of sorts. It gives a writer a choice of many alternative words with subtle shadings of meaning to express single concepts. On the other hand, a thesaurus developed for information retrieval purposes might be looked at more as a treasure map, leading a user to a treasury of stored information. A preferred term is selected among several possible terms, and users are directed, by means of references from alternative forms, to employ this one term.

An information retrieval thesaurus is, therefore, a term-association list structured to enable indexers and subject analysts to describe the subject content of a document to a desired level of specificity at input, and to permit searchers to describe in precise terms the information required at output. A thesaurus serves as an authority list of the filing labels that permit information to be stored by one person and retrieved by another. It is a device to bring into coincidence the language of the documents and the language of indexers and inquirers.

The thesaurus concept has been widely adopted for vocabulary control in modern post-coordinate information systems. It is similar in structure and organization to the conventional list of "subject headings." It lists Descriptors alphabetically, endeavors to control synonyms and homographs, and displays generic-specific and other relationships between terms.

A thesaurus of Descriptors, interrelated by cross-references, provides the basic rules of communication for an information system. As an information system grows, its thesaurus can be systematically built and refined to the point where it represents, in a sense, the vocabulary of the subject field involved. A functional thesaurus must be logical and accurate and have an internal integrity in relation to the guidelines upon which it has been built. The ultimate success or failure of a thesaurus depends, however, on the extent of its usefulness as a communication tool in an information system.

2. **Descriptors -- Definition and Function**

Descriptors are meaningful terms or short phrases that are used to characterize a document and to provide index entries to it. Descriptors, for the most part, represent general classes of things discussed in the literature. Many will be found in the general authoritative dictionaries, while the remainder can usually be located in one or more specialized dictionaries. Descriptors are the basic building blocks that, when defined and interrelated by a system of cross-references, comprise an information retrieval thesaurus.

Descriptors perform a dual function: (1) they permit an indexer to describe the subject elements of a document so that it (or a surrogate record) may be stored in a system for future search and retrieval purposes; (2) they permit a searcher to construct a question using terms that are known to have been used in indexing. In both instances, the extreme variability of the language found in documents and the language used by inquirers is reduced by reliance on a standard vocabulary. In this sense, the Descriptors represent the communication link between the operators and users of the system and its content. Descriptors are closely related (but not identical) to both the "subject headings" that one finds in conventional library systems and the "keywords" that one finds in full-text or uncontrolled vocabulary situations.

Descriptors (singly, or two or more in coordination) will usually adequately represent the ideas and concepts found in a document. To identify specific entities (such as pieces of equipment or geographic areas), however, Identifiers must be used. Rules and guidelines for Identifiers are covered by Section VIII (Part 2).

3. **Educational Terminology**

Many of the problems encountered in the development of the ERIC *Thesaurus* directly reflect problems inherent in the relatively "soft" or imprecise language of education and the social sciences. The subject matter of the physical sciences and engineering, in contrast, lends itself much more readily to close definition and commonly accepted language and word usage.

In most indexing schemes, the basic objective is to break down common language or terminology into its simplest components while still retaining adequate definition. This objective is often reflected in a thesaurus or word list comprised mostly of single-word terms. In the ERIC *Thesaurus*, however, there is an abundance of compound (multiword) terms. This fact can be explained in terms of the educational process itself. This process basically involves students, teachers, and an educational environment. The events occurring during the educational process can often be applicable equally to any of the three components. In an

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indexing system that relies on the coordinative use of several terms to represent complex topics, it is difficult to distinguish the source of an action and the recipient of an action without separately defining each. For example, if there is a document dealing with "the influence of the teacher on the attitudes of students," it is theoretically possible to index such a document by coordinating the concepts of "influences," "attitudes," "teachers," and "students." In retrieval, however, how are searchers to know whether they are retrieving documents that deal with "student attitudes" or "teacher attitudes," or, for that matter, with "student influences" or "teacher influences"? To avoid confusion, these concepts can be distinguished by indexing the document in question by the multiword terms "student attitudes" and "teacher influence." In an environment as complex as that of the educational process, this type of compounding, binding, or "precoordination" of terms is often unavoidable.

Beyond the considerations of logic and retrievability, however, there is also the question of how people actually think and express themselves in the language of a subject field. In the interest of clarity, unity, meaningfulness, and recognizability, a thesaurus must represent and preserve the natural language of its field. For better or worse, much of the language of education consists of compound terminology.

The ERIC *Thesaurus* is widely recognized in the United States as the most current, definitive vocabulary tool in the domestic education field. It is also recognized as an international authority. For example, its terms and Scope Notes (i.e., definitions) are used in such references as the *UNESCO:IBE Education Thesaurus* and the *International Dictionary of Education*. The ERIC vocabulary is seen throughout the world in a variety of indexing tools, e.g., the *Japanese-English Educational-Use Keyword Equivalents* published by the Center for Educational Technology, Aichi University of Education, Japan. The combined format, structure, and terminology of the ERIC *Thesaurus* repeatedly has served as a model for education thesauri of other nations, particularly the English-speaking countries. Recent new national thesauri based on the ERIC model include the *Australian Thesaurus of Education Descriptors* (1984), the *British Education Thesaurus* (1988), and the *Canadian Education Thesaurus* (1991, in English and French).

B.   Lexicography as Practiced in the ERIC System

1.   General

ERIC is a decentralized network, and the development and maintenance of the ERIC *Thesaurus* is a decentralized operation. The real "architects" of the *Thesaurus* are the Clearinghouse indexers engaged in the day-to-day processing of documents for input. Indexers have the responsibility of recommending changes to the *Thesaurus* when they find subject concepts in the literature that cannot be expressed or indexed adequately with the existing terminology.

ERIC indexers, like the network they support, are decentralized. As Clearinghouse staff members, their indexing is primarily confined to documents in the subject specialty area covered by their particular Clearinghouse, and represents the terminology of that specialty area and the viewpoints of its practitioners and users. Part of the strength of the ERIC *Thesaurus* is its reflection of the specialist's point of view. (Of course, each Clearinghouse must assume a proportional share of vocabulary activities if a balance across subject areas is to be maintained.)

The subject specialist's interpretation of terminology, however, must frequently be moderated. Education encompasses wide-ranging subject fields, and ERIC is responsible to a highly diversified user community. Frequently, one Clearinghouse's interpretation of subject matter will not coincide with that of another. ERIC avoids the trap of parochial points of view by providing centralized lexicographic analysis and control, an ongoing function of the ERIC Processing and Reference Facility.

2. **Principal Lexicographic Functions**

All ERIC vocabulary recommendations (whether new terms or modifications, *Thesaurus*-related or Identifier-related) are reviewed by the Facility lexicographic staff. Terms, definitions, and cross-reference structures are analyzed and evaluated to make sure they:

- Maintain Consistency

- Avoid Proliferation

- Clarify Ambiguities

- Conform to the Vocabulary Coordination Procedures Set Forth in the *ERIC Processing Manual*

Each of these functions is important enough to be explained with some examples.

a. **Maintain Consistency**

Clearinghouses working independently can generate inconsistent terminology. For example, the concepts "academic" and "scholastic," although varying slightly in meaning can be considered synonymous for purposes of retrieval. The use of both concepts in the *Thesaurus* would create a problem of inconsistency.

Example: Clearinghouse A submits
         SCHOLASTIC FAILURE
          UF ACADEMIC FAILURE

               Clearinghouse B submits
         ACADEMIC APTITUDE
          UF SCHOLASTIC POTENTIAL

               Clearinghouse C submits
         ACADEMIC ACHIEVEMENT
          UF SCHOLASTIC ACHIEVEMENT

               Clearinghouse D submits
         SCHOLASTIC ABILITY
         UF ACADEMIC ABILITY

(UF = "Used For..."---See item D.5 of this section.)

Problem: Even though the compound terms involved are not exact synonyms, if they all went into the *Thesaurus* as submitted, consistency would obviously be lacking and retrieval would be more difficult. Users

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would be puzzled by what they would assume to be a distinction made by the system between "academic" and "scholastic." This problem cannot be solved at the level of the Clearinghouses, as one Clearinghouse is often not aware of another's term preferences and choices.

Solution: Central lexicography receives the recommendations from the A, B, C, and D Clearinghouses. Since all the information has been assembled at one point, the problem can be recognized. The four candidate terms are analyzed to see whether they can reasonably coexist in the same system. This analysis may be aided by consulting reference works. It obviously must first be determined whether the two terms "academic" and "scholastic" are synonyms and, if so, which is preferred. In this particular case, the conclusion was that the terms are synonymous for purposes of retrieval, and that "academic" is more widely used than "scholastic." Most often, such a decision establishes a precedent that will then apply to later decisions and that in the observance will lend consistency to the system's vocabulary.

b.   **Avoid Proliferation**

Decentralized input can also lead to a proliferation of redundant and essentially duplicate concepts, with subsequent loss of retrieval effectiveness. To avoid such situations, synonymous or unnecessary variants must be stored under selected "preferred" terms.

Example: Clearinghouse A submits
             BICULTURAL EDUCATION

             Clearinghouse B submits
             INTERCULTURAL EDUCATION

             Clearinghouse C submits
             MULTICULTURAL EDUCATION

             Clearinghouse D submits
             MULTIETHNIC EDUCATION

Problem: Without central control, all of the terms in the example might well enter the *Thesaurus*, leading to four terms where one would do. Searchers conducting inquiries in this topical area would then be burdened unnecessarily with the task of incorporating all four terms into their strategies because any other approach might fail to retrieve essential material.

Solution: Central lexicographic control can solve this problem via research, rational decision-making based on findings, and the recording of this process for use in later problem situations. In this case, MULTICULTURAL EDUCATION was selected as the preferred form and cross-references were made to it from the other three terms.

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c. **Clarify Ambiguities**

Specialists in one field may be unaware that their terminology may have different meanings in other fields.

Example: Clearinghouse A submits LEARNING CENTERS

Clearinghouse A's field of specialization covers the education of young children, and the Clearinghouse understands LEARNING CENTERS to be an "open education" term meaning "areas inside classrooms (e.g., a table) in which instructional materials have been gathered for unstructured, self-directed learning." It can be assumed that this is a common term in Clearinghouse A's field and that they see no ambiguity in it. With the "blinders" of the specialist on, Clearinghouse A has unwittingly submitted a homograph.

Problem: LEARNING CENTERS may appear to present no problems to the indexers and searchers in Clearinghouse A's field of specialization. Imagine, however, the many uses and interpretations that could be applied to such a term across other areas of knowledge. The term could be misinterpreted to mean many different kinds of facilities and institutions, including schools, counseling centers, libraries, psychoeducational clinics, job training centers, etc. Before too long, the term might be used in so many different ways that it could no longer be searched specifically for the originally intended "classroom" context. Users, particularly in Clearinghouse A's field, would be faced with many "false drops," and wasted searches might be repeated in one way or another by hundreds of users.

Solution: Potential ambiguity of terminology can be readily detected from the broad, unrestricted point of view of central lexicography. Once the need for Scope Notes is discerned, contact can be made with initiating Clearinghouses to request that definitions be prepared. In this case, a parenthetical qualifier was also needed to assure correct usage. The resultant entry in the *Thesaurus*, LEARNING CENTERS (CLASSROOM) with its restrictive Scope Note, is unambiguous.

d. **Conform to the Vocabulary Coordination Procedures Set Forth in the *ERIC Processing Manual***

With the assistance of a number of lexicographic consultants and terminological specialists over the years, a set of formal vocabulary rules has evolved for ERIC Descriptors and Identifiers. All rules for Descriptors are set forth in this section of the ERIC Processing Manual, Section VIII (Part 1), and all rules for Identifiers are documented in Section VIII (Part 2).

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These rules cover the policies and the mechanics of both vocabulary generation and selection. For instance, an important policy is that "Descriptors should represent important concepts found in the literature of the database rather than concepts derived independently." Matters of Descriptor/Identifier mechanics covered are, for example: noun forms preferred over verb forms, inverted entries avoided, no punctuation other than parentheses, use of parentheses limited to qualifying homographs or indicating "life spans" of formerly indexable concepts.

The rules are designed to impose order and internal integrity on the ERIC vocabulary and are to be observed both by the personnel submitting candidate terminology and by the central lexicographic staff evaluating the submissions.

Not all situations can be covered, however, in any single set of rules. (The *ERIC Processing Manual* is analogous in this regard to a constitution rather than to a set of statutes.) Vocabulary and other processing rules must leave the way open for compromise action when requirements are in conflict. ERIC Lexicographers and Clearinghouse personnel work together in interpreting the rules in order to achieve the overall objectives of the system.

3. **Vocabulary Development Program**

The Vocabulary Development Program is a procedure for coordinating and implementing changes to the ERIC *Thesaurus*. The flow of the program is illustrated in **Figure VIII-1-1**.

The Vocabulary Development Program provides the means for each component of the decentralized ERIC system to participate in thesaurus development and maintenance. Initiated in December 1980, the program grew out of ERIC's experience with the 1977-80 Vocabulary Improvement Project (VIP) and the *Play Thesaurus* (see **Attachment #1** of this section, "History of the *Thesaurus*..."). As in the past, the emphasis continues to be on total network involvement in *Thesaurus* development, with a streamlined approach.

a. One basic procedure and one form are used for the submission and review of all proposed changes to the ERIC *Thesaurus*.

The characteristics and uses of the "Vocabulary Development Form" are covered in item "E" of this section.

b. ERIC Clearinghouses and selected users are given the opportunity to review all proposed changes and additions prior to final review/implementation by the Facility lexicographic staff.

c. A Vocabulary Review Group (VRG) of 29 members serves as the review/advisory group for the Vocabulary Development Program. In addition to reviewing specific recommendations for changes and new terms, the VRG is responsible for evaluating vocabulary-related policy matters and for recommending viable alternatives for long-range *Thesaurus* development. The VRG membership includes:

ERIC
VOCABULARY DEVELOPMENT
PROGRAM—FLOWCHART
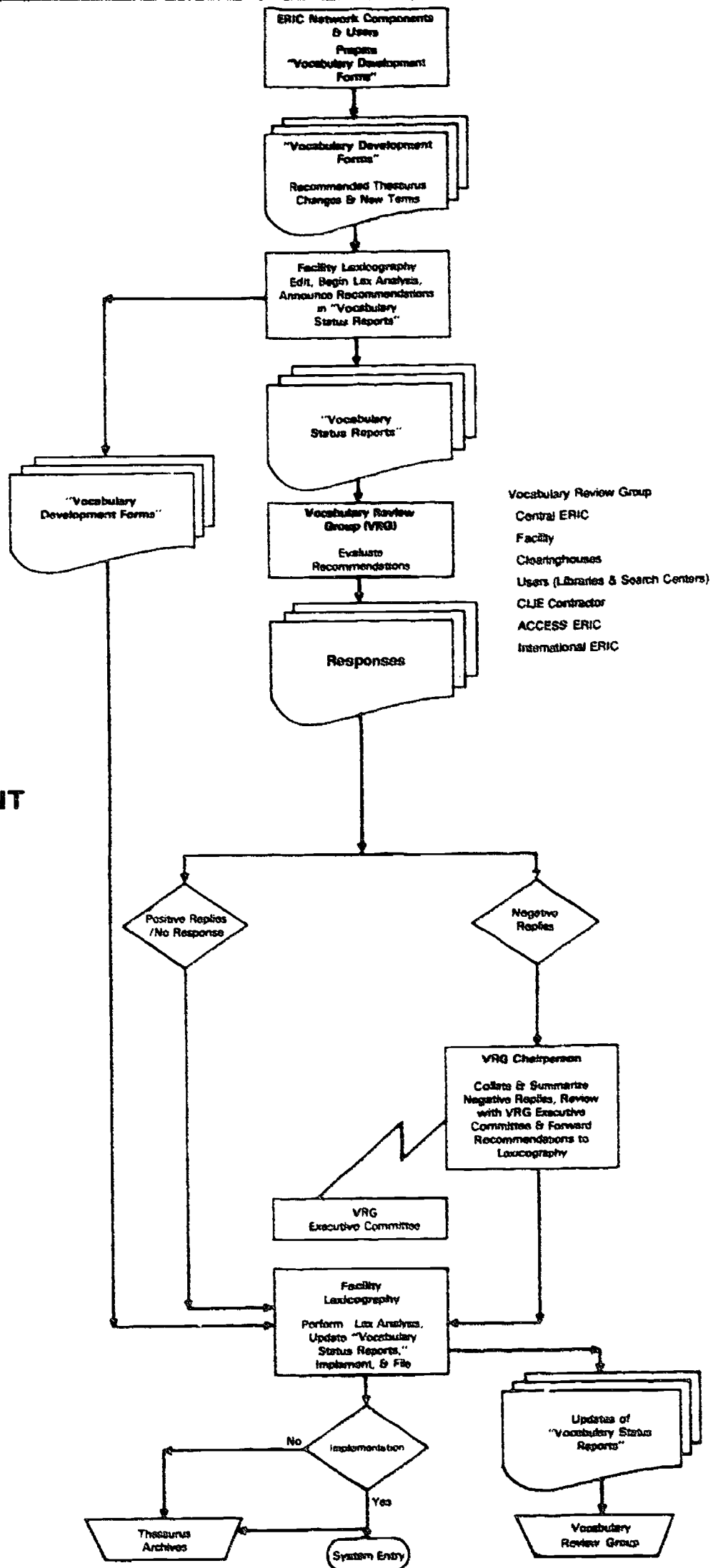
FIGURE VIII-1-1

- 16 - ERIC Clearinghouse Coordinators

- 1 - Facility Lexicographer (also, the Facility Identifier
  Coordinator is an "ex officio" member)

- 1 - ACCESS ERIC Representative

- 1 - CIJE/*Thesaurus* Publisher

- 1 - Central ERIC Monitor

- 5 - User Representatives:
  A university librarian; a school librarian (manual search facility);
  staff member of an online search facility; staff member of an
  information/documentation center related to education; and an
  educational practitioner.

- 3 - "International ERIC" Representatives:
  Representatives of the *Australian Education Index*, *British Education
  Index*, and *Canadian Education Index*. International ERIC
  (informally, InterEd) is a long-term initiative for international
  cooperation among the major English-language education-related
  databases.

d. VRG members are appointed by Central ERIC. Members serve as long as they want,
    at the discretion of Central ERIC. Clearinghouse directors are responsible for
    nominating the Clearinghouse representatives.

e. The VRG Executive Committee is composed of the VRG Chair, the Facility
    Lexicographer, and the Central ERIC Monitor. The purpose of this committee is to
    resolve any problems/conflicts identified by the larger review group.

f. The VRG is chaired by a Clearinghouse Coordinator appointed by Central ERIC.
    The Chair of the VRG assumes the following responsibilities:

    - Coordinate activities of the VRG and act as liaison among Facility,
      Clearinghouses, users, and Central ERIC.

    - Receive from the VRG members all negative comments pertaining to
      proposed *Thesaurus* changes.

    - Collate and summarize those negative responses.

    - Arrange coordination sessions with the VRG Executive
      Committee as needed to assess negative responses, calling for the assistance
      of other Clearinghouse Coordinators on an "ad hoc" basis.

    - Prepare final recommendations for Facility Lexicographer.

g. Facility Lexicography prepares a 1- to 6-month *Vocabulary Status Report* (at least two
    per year) summarizing all recommended *Thesaurus* changes received from
    Clearinghouses and external users during the respective time period. Brief

annotations, e.g., Scope Notes for new terms, accompany each change listed on the status report form (see example in **Figure VIII-1-2**). The status report serves as the mechanism for alerting the VRG to proposed changes and for soliciting the membership's comments and recommendations. Reviewers may comment directly on the form and/or attach more extensive comments. Return of copies from the VRG is scheduled within one or two months of a particular report's distribution. Two copies are returned, one to the Facility for the ERIC lexicographic archives and the other to the VRG Chair for final review and summation of voting. The final disposition of each recommended change is included in an updated status report that is redistributed to the VRG (see example in **Figure VIII-1-3**). Additional VRG review may occasionally be necessary if there are contested dispositions.

h. The review cycle for the Vocabulary Development Program, from receipt to disposition, varies from 2 to 9 months. Turnaround time usually depends on the volume of *Thesaurus* changes received, which affects in turn how often Vocabulary Status Reports are issued.

i. The membership of the VRG is announced periodically in the *Interchange* newsletter (published by ACCESS ERIC) in order to encourage ERIC users interested in accomplishing additions of new *Thesaurus* terminology, or those encountering other situations in subject searching, to interact with the VRG.

j. Facility Lexicography is responsible for implementing all approved recommendations to the *Thesaurus* file, and making any necessary postings updates to the index (inverted) files to ensure their compatibility with the updated *Thesaurus*. (See "Synchronization of Lexicography and Indexing," item B.5 of this section.) Additionally, the lexicographic staff prepares a "final report" of each 1- to 6-month *Thesaurus* update entitled *Thesaurus Changes and Statistical Data* (not shown in the flow of the Vocabulary Development Program, **Figure VIII-1-1**). This report contains three standard attachments, as follows:

- Attachment 1 provides a listing of the major *Thesaurus* transactions in the file update. It serves as a supplement to working editions of the *Thesaurus*, and is used by the CIJE/*Thesaurus* Publisher to update the Thesaurus Additions and Changes sections of RIE and CIJE. (Thesaurus Additions and Changes serves as a supplement to users of the commercial, published *Thesaurus*.)

- Attachment 2 gives total *Thesaurus* input and disposition statistics for the current update.

- Attachment 3 gives the cumulative total terms in the *Thesaurus* file as of the current update.

4. **Participation by External Users**

ERIC encourages direct participation by external users in its vocabulary development activities. Users have been involved in the development of the ERIC *Thesaurus* since its beginning, i.e., reviewing terminology and serving in advisory roles when major changes in *Thesaurus* coverage and format were being considered.

Users are kept abreast of current vocabulary activities through Clearinghouse

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FIGURE VIII-1-2

May 1992

VIII-1-11

ERIC Processing Manual

| ERIC | VOCABULARY STATUS REPORT | Date: Jul/Aug84 | Page: 11 of 22 |

ENTRY NUMBER	DESCRIPTOR AND DESCRIPTION OF RECOMMENDED ACTION	New Term	Change	Purge	Originator	Date Received	VRC* Agree	VRC* Do Not Agree	Date of Disposition Implemented **	Date of Disposition Not Implemented	REVIEWER'S REMARKS (Please detail any objections; use back of form, if necessary.)	ELAPSED TIME
1657	AIR TRAFFIC CONTROLLERS SN: Personnel who give instructions and information by radio to aircraft pilots to prevent collisions and minimize delays in take-off and landing for air traffic at or near airports BT: Personnel	X			CE	8/84					33 relevant hits, incl. Iden postings of "Air Traffic Control" & "Air Traffic Controllers." (CE)	
1658	FREEHAND DRAWING Add UF: Drawing		X		CE	8/84					FREEHAND DRAWING can be found through the Rotated Display, but in the Alphabetical Display alone, it does not leap readily to mind as the preferred term for "drawing." (CE)	
1659	HOME HEALTH AIDES Add SN: Under professional supervision, assist with meals, shopping, household chores, bathing, and other daily living needs of elderly, ill, or disabled persons in the clients' homes		X		CE	7/84						

* Return copies by: September 22, 1984
   To: Anita Colby, ERIC/JC
        Jim Houston, ERIC Facility (AA)   Reviewer/Organization

** Term may be used for indexing as of this date

PLEASE VOTE & RETURN THIS PAGE

VOCABULARY -- DESCRIPTORS

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| ERIC | VOCABULARY STATUS REPORT | | | | | Date: Oct84 | | | | | | Page: 4 of 23 | |

ENTRY NUMBER	DESCRIPTOR AND DESCRIPTION OF RECOMMENDED ACTION	New Term	Change	Purge	Originator	Date Received	VRG*		Date of Disposition		REVIEWER'S REMARKS (Please detail any objections; use back of form, if necessary.)	ELAPSED TIME
							Agree	Do Not Agree	Implemented **	Not Implemented		
1657	AIR TRAFFIC CONTROL SN: Scheduling and monitoring the flow of air traffic at airports, during approaches, and en route BT: Traffic Control	X			CE	8/84	16	4	10/84		33 relevant hits, incl. Iden postings of "Air Traffic Control" & "Air Traffic Controllers." (CE) - - - - - - - - - - - - - - - Changed from AIR TRAFFIC CONTROLLERS. Since the VIP, ERIC has favored "occupation" terms over "personnel" terms, especially in areas on the periphery of education. Change is in line with other social science thesauri such as Psyc Abs & Mgmt Contents. SN modified per remarks of CG/PS/SP/TM/UD. (VRG)	2 mos
1658	FREEHAND DRAWING Add UF: Drawing (Freehand) COMPUTER GRAPHICS Add UF: Drawing (Computerized) DRAFTING Add UF: Drawing (Precision Draft)		X		CE	8/84	18	1	10/84		FREEHAND DRAWING can be found through the Rotated Display, but in the Alphabetical Display alone, it does not leap readily to mind as the preferred term for "drawing." (CE) - - - - - - - - - - - - - - - Modified per AA. "Drawing" should not be restricted to one access point. (VRG)	2 mos
1659	HOME HEALTH AIDES Add SN: Workers who, under professional supervision, provide routine health/personal care and housekeeping services in homes of disabled, ill, or elderly clients		X		CE	7/84	17	3	10/84		SN simplified per CG/SP. Subject added per JC/PS/TM/ UD/Lake/Wise. (VRG)	3 mos

* Return copies by: ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇
To: Anita Colby, ERIC/JC
Jim Houston, ERIC Facility (AA)

Reviewer/Organization

** Term may be used for indexing as of this date.

newsletters and the *Interchange* newsletter. They frequently interact directly with vocabulary coordinators at the Clearinghouses. Another common occurrence is for users to submit vocabulary recommendations directly to the Facility Lexicographer and to interact with the lexicographic staff over the phone.

Volunteers from the user community also serve as members of the ERIC Vocabulary Review Group, as described in the preceding section B.3.

5. **Synchronization of Lexicography and Indexing**

A significant philosophical tenet of the ERIC vocabulary development process is the practice of keeping the authority files and the index (postings) files synchronous. (See the "Vocabulary Development Form" and its emphasis on postings, Figures VIII-1-7 and VIII-1-8 in item "E.") As a new term is added to the authority files, a special effort is taken to locate uses of the term and its variants in the database and to update its postings accordingly. When an obsolete or ambiguous term is removed from the authority files, every effort is made to delete also the term from the postings files. Some such changes require manual reindexing (i.e., individual examination and reindexing of original records), but most can be accomplished using ERIC's "Transfer-and-Delete" software (in which one transaction suffices to locate all records containing one to several terms, to delete the term or terms, and to replace them with one or more terms, while retaining the original major or minor status of the terms intact).

6. **Lexicographic Authorities**

The ERIC Facility maintains an extensive collection of lexicographic tools (dictionaries, glossaries, thesauri, encyclopedias, etc.) used to verify, structure, and define terms used in the ERIC vocabulary. Over 300 key references are included in the collection. A list of the principal thesauri and subject-heading lists in this collection appears in item C.1.e.(3) of this section.

Citations of the documents in the lexicographic collection are compiled into a "*Thesaurus* Bibliography." This bibliography is maintained by, and may be obtained from, the Facility. It has appeared in past editions of the published *Thesaurus* and may be made available in future editions, if warranted by user interest.

Additional reference works in Washington metropolitan area libraries are consulted when complex lexicographic problems arise that cannot be researched adequately using the reference materials at hand.

7. **Structure of the *Thesaurus of ERIC Descriptors***

To assist the user (indexer or searcher) of the *Thesaurus*, the terminology is arranged in four different sequences, each providing a different approach. The principal or primary arrangement is an alphabetical display of Descriptors (includes a complete, individual display of each Descriptor), with the other three displays acting, in effect, as indexes to the primary display:

PRIMARY ARRANGEMENT	SECONDARY ARRANGEMENTS
Alphabetical Display	Rotated Display
	Hierarchical Display
	Descriptor Group Display

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SPECIAL NOTE: None of the three secondary arrangements show Descriptors in their complete context. Full meanings and intended usages for Descriptors cannot be determined without consulting the Alphabetical Display, the only one of the four arrangements containing Scope Notes and complete cross-reference structures. NEVER use any one of the three secondary arrangements for direct indexing or searching! ALWAYS check the Alphabetical Display before using any Descriptor! Indexers must remember that the integrity of the Thesaurus, and the equivalence between a particular Descriptor and its postings, are fundamental to effective retrieval. NEVER use a Descriptor in a sense that violates its intended meaning! ALWAYS check RIE and CIJE to see how a Descriptor has been used, if (for whatever reason) the intended meaning of a term cannot be determined by consulting the Alphabetical Display. Let the central lexicographic staff at the Facility know when Descriptor misuse is discovered; the Lexicographers will coordinate whatever action is necessary to correct the problem.

a.   **Alphabetical Display**

This is the only *Thesaurus* display that should be used for direct indexing and searching. All valid Descriptors (main terms), invalid Descriptors ("dead" terms), and USE references appear in this display interfiled alphabetically word-by-word at one location. Descriptors are "preferred" (indexable) *Thesaurus* terms, while invalid Descriptors and USE references are "non-preferred." Each type of term is displayed with its complete record, as follows:

●   <u>Descriptors (main terms)</u>
        Scope Note (SN), Group Code, Add Date, Postings Count, Used For (UF) references, Narrower Terms (NT), Broader Terms (BT), and Related Terms (RT).

●   <u>Invalid Descriptors ("dead" terms)</u>
        Scope Note (SN), Group Code, Add Date, and Postings Count.

●   <u>USE References</u>
        (reciprocals of UF references; therefore, <u>no subfields</u> are carried in these records).

Other items of this section fully describe these displays. Please refer to the following:

b.   **Secondary Arrangements**

The following three *Thesaurus* display "arrangements" are secondary to the main Alphabetical Display. Each serves as a useful tool in achieving full *Thesaurus* utilization. Their purpose is to provide <u>access</u> to the Alphabetical Display; they should not be used for indexing or searching without consulting the Alphabetical Display.

(1)   **Rotated Display**

The Rotated Display is a permuted alphabetical index of <u>all words</u> that form *Thesaurus* terms. Words in all Descriptors (main terms), invalid

2.5

Descriptors ("dead" terms), and USE references are included. Since each separate word is considered as a filing unit, a term appears in as many locations in this display as it contains separate words, i.e., single-word terms file in one location, two-word terms file in two locations, and so on. Subfiling under any one file point is performed first on the basis of the words to the right of the file point and second, on the basis of the words to the left of the file point. The word order within the term itself is not altered.

Example: PRIVATE SCHOOL AID

STUDENT FINANCIAL AID OFFICERS
PRIVATE SCHOOL AID
             LEGAL AID PROJECTS (1966 1980)   Use LEGAL AID
      PROVINCIAL AID   Use STATE AID
         SCHOOL AID   Use EDUCATIONAL FINANCE
          STATE AID

          PRIVATE JUNIOR COLLEGES   Use PRIVATE COLLEGES and
                                    TWO YEAR COLLEGES
          PRIVATE SCHOOL AID
          PRIVATE SCHOOLS
          PRIVATE SECTOR
          PRIVATE UNIVERSITIES   Use PRIVATE COLLEGES
          PRIVATIZATION

          SCHOOL AGE DAY CARE
          SCHOOL AID   Use EDUCATIONAL FINANCE
   NONPUBLIC SCHOOL AID (1972 1980)   Use PRIVATE SCHOOL AID
   PAROCHIAL SCHOOL AID (1972 1980)   Use PAROCHIAL SCHOOLS and
                               PRIVATE SCHOOL AID
    PRIVATE SCHOOL AID
        SCHOOL AIDES

USE references are clearly distinguished from Descriptors in this display. Invalid Descriptors can be identified by accompanying "life span" notations, e.g., (1966 1980), and by having no USE reference.

The Rotated Display is useful in determining all usages of a particular word in the *Thesaurus*, without respect to its position in a multiword term. The Display tends to group related terms where they may often be separated in the main Alphabetical Display, thus aiding indexers in finding more precise terminology, search analysts in translating their inquiries into the language of the system, and subject analysts in structuring new terms.

(2)   **Hierarchical Display**

The Hierarchical Display depicts families of Descriptors (generic trees) related by the taxonomic concept of "class membership." Complete, two-way visibility is provided for all broader-narrower relationships of every *Thesaurus* Descriptor. Each generic tree is carried to its farthest extreme in both directions. The display files the Descriptors in letter-by-letter order, ignoring spaces between words (this differs from the word-by-word filing used for the *Thesaurus*' main Alphabetical Display).

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Two sample generic trees are shown below, one for the term DRAFTING and the other for the term LIBRARY SERVICES. Broader terms (i.e., BTs) are identified by preceding colons and appear above each file point (main entry). Narrower terms (i.e., NTs) are identified by preceding periods and are listed below each file point. Multiple colons or periods indicate successively broader or narrower levels of terms.

```
BT                      ::::LIBERAL ARTS
▲                       :::HUMANITIES
│                       ::FINE ARTS
│                       :VISUAL ARTS
├─FILE POINT────►DRAFTING
│                       .ARCHITECTURAL DRAFTING
▼                       .ENGINEERING DRAWING
NT                      .TECHNICAL ILLUSTRATION

BT                      ::SERVICES
▲                       :INFORMATION SERVICES
├─FILE POINT────►LIBRARY SERVICES
│                       .LIBRARY CIRCULATION
│                       ..INTERLIBRARY LOANS
│                       .LIBRARY EXTENSION
│                       .LIBRARY TECHNICAL PROCESSES
▼                       ..LIBRARY ACQUISITION
NT                      ...LIBRARY MATERIAL SELECTION
```
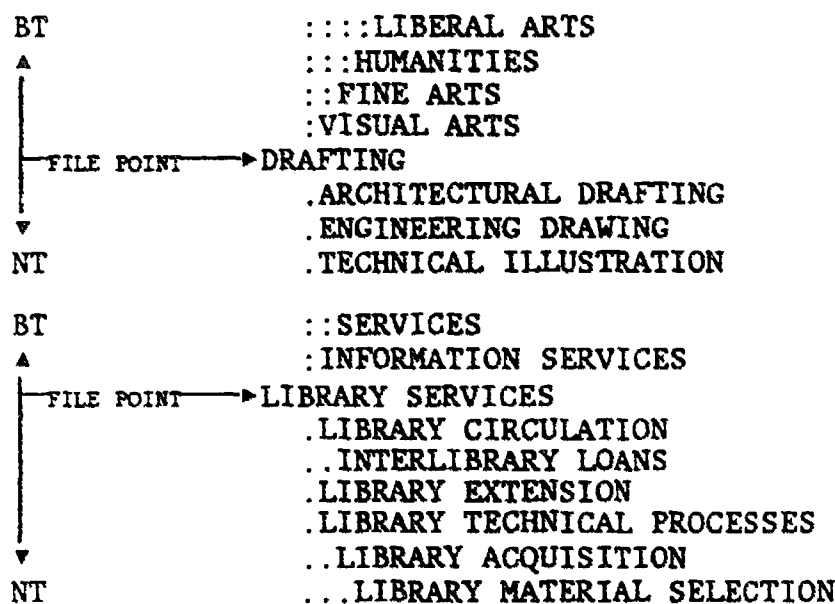
Descriptors having neither BTs nor NTs appear in the display as isolates. Included among these isolates are the "invalid" Descriptors, identified by accompanying "life span" notations, e.g., "(1966 1974)," "(1969 1980)." Invalid Descriptors are the only terms appearing in this display that are not currently used in indexing.

The Hierarchical Display serves as a valuable tool for indexers in their attempts to index documents to the most appropriate level of specificity, and for searchers in their attempts at developing comprehensive search strategies.

See item D.6.e.(2), under "Hierarchical Visibility," for a discussion on the importance of using the Hierarchical Display.

(3)   **Descriptor Group Display**

The Descriptor Group Display places each term in the *Thesaurus*, excluding UFs, into one (and only one) of 41 broad subject categories. Together, these categories or "Descriptor Groups" provide a "table of contents" to the *Thesaurus* and an overview of ERIC's subject coverage. Descriptors are alphabetized word-by-word under each group. The display is provided for browsing and for narrowing down the number of terms to be looked at in given situations. It is meant to provide suggestions and be of general assistance to users, whether indexers, searchers, ☆ lexicographers; but it is not a formal classification scheme and should not be construed as such.

Each Descriptor Group is defined by a Scope Note. The set of 41 Scope Notes is necessary for comparing coverage among the groups and always accompanies (precedes) any distribution of the display. Also, each group is represented in the system by a 3-digit "Group Code."

See item D.3 for the complete Descriptor Group structure, a listing of the Group Codes, further information on the groups' functional applications, and details on how individual Descriptors are assigned to the groups.

c.   **Frequency of Distribution**

Working Copies of the Alphabetical, Rotated, and Hierarchical Displays are produced at least annually for internal use by ERIC staff. Working Copies of the Descriptor Group Display, while not regularly scheduled, are produced as needed. The published or commercial *Thesaurus* includes all four displays and is updated and published at least quadrennially.

C.   Descriptor Development

1.   **Evaluation and Decision Criteria for a New Descriptor**

During the course of indexing, indexers become aware of concepts that are not adequately represented in the existing *Thesaurus*. Concepts that are found in documents and journal articles being added to RIE or CIJE, but that are not covered by the *Thesaurus*, are considered "candidate Descriptors."

The following guidelines are provided to aid indexers in determining whether a candidate Descriptor should be added to the *Thesaurus*.

a.   **Does It Actually Appear in Documents Being Indexed?**

★*Important Principle: To be considered for the ERIC Thesaurus, a concept must actually appear in the literature being indexed. It cannot be added, for example, merely to complete the links in a hierarchical chain.*

For instance, the *Thesaurus* contains COLLEGE ENTRANCE EXAMINATIONS as a Narrower Term of TESTS, skipping the potential intermediate term ENTRANCE EXAMINATIONS; nevertheless, ENTRANCE EXAMINATIONS cannot be added as long as all usages of the term either pertain to college-level examinations or overlap considerably with other closely related conceptual areas (e.g., OCCUPATIONAL TESTS) already suitably covered in the *Thesaurus*.

The reason for this rule or constraint is that the existence of unused Descriptors in the *Thesaurus* would misrepresent the content of the database, would result in searches yielding zero hits, and would lead to dissatisfaction among users.

b.   **Does It Qualify for Descriptor Status or Is It an Identifier?**

Highly specific entities, including most proper nouns/noun phrases, are

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sometimes the subjects of documents. These include:

Geographic Locations	Persons
Legislative Titles	Projects
Literary/Artistic Titles	Test Titles
Organization Names	Trade Names

Called "Identifiers," these entities are allowable index terms, and a special field is provided for them. Identifier indexing is intended to supplement Descriptor indexing, and Identifier use must always be in addition to (rather than in lieu of) Descriptor use.

The almost infinite number of specific entities generally makes them undesirable for inclusion in the tightly controlled vocabulary of the *Thesaurus*. Some, because of "staying power" in the literature, have graduated over time to Descriptor status (e.g., AFRICAN CULTURE, AMERICAN INDIANS, BAYESIAN STATISTICS, CHRISTIANITY, FRENCH, MEXICANS, RUSSIAN), but this phenomenon is the exception to the rule. *Thesaurus* precedence is the indexer's best guide in determining whether a proper noun/noun phrase should be considered as a candidate Descriptor. For instance, terms in the eight categories listed above never qualify for Descriptor status. (See Section VIII (Part 2) for a complete discussion of Identifiers.)

Of course, not all entries in the Identifier field are proper nouns. Any concept working its way into the literature of the field must, as a rule, first be "tried out" as an Identifier. This practice allows a concept to be observed while accumulating usage and/or acceptance among various authors. Frequency of indexing occurrence is always an important consideration in deciding whether to add a new conceptual-type term to the *Thesaurus*.

ERIC uses a "Heavily Posted Identifiers" list to highlight candidate Descriptors and encourage their *Thesaurus* consideration. Appearance in this list serves notice to ERIC Clearinghouse vocabulary coordinators that the terms be given some priority or special attention in vocabulary development work by attempting to elevate them to *Thesaurus* status, either as main term Descriptors or as USE references. Fully titled *Heavily Posted Identifiers that Should Be Considered for the ERIC Thesaurus*, this list came on the scene in 1981 with the advent of the printed *Identifier Authority List* (IAL) and has been updated and released subsequent to each IAL edition since that time. The list is prepared as a total alphabetical list and, again, alphabetically by ERIC Clearinghouse. See **Figure VIII-1-4** for a sample page from each. All terms in this example have 30 or more postings. Carry-overs from earlier lists are flagged with stars, some including an additional diamond symbol indicating only light postings recently.

The list by Clearinghouse is provided as a guide to help focus Clearinghouse decision-making on what terms to work on and which, if any, other Clearinghouses might need to be consulted in developing justifications. No restrictions are implied, however. Anyone can work on any term at any time, providing that others in the network are notified via E-mail, etc., in order to avoid duplication of effort. Submitted terms on the list are redlined, with the submitter noted (checked), by the Facility lexicographic staff, thus providing a convenient status report in between completely revised editions of the list. The ✓AA on the list means submitted by the

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SEPTEMBER 1991

HEAVILY POSTED IDENTIFIERS THAT SHOULD BE CONSIDERED FOR THE ERIC THESAURUS

Alphabetical List

IDENTIFIER	POSTINGS	IDENTIFIER	POSTINGS
Aboriginal People **	(157)	Avoidance Behavior	(39)
Academic Discourse	(72)	Balance	(34)
Access to Health Care	(41)	Bankruptcy	(34)
Accuracy *	(94)	Basic Writers	(69)
Active Learning	(44)	Beginning Writing	(75)
Adaptive Behavior Scales	(34)	Behavior Analysis	(42)
Adjunct Questions	(34)	Behavior Management	(55)
Administrator Behavior	(32)	Bereavement	(52)
Adolescent Suicide	(36)	Blackfeet (Tribe)	(31)
Adoptive Parents	(33)	Blame	(30)
Adult Child Relationship	(57)	Blooms Taxonomy *	(209)
Adult Performance Level ** ◆	(75)	Boolean Logic	(40)
Advanced Composition	(39)	Boolean Search Strategy	(43)
Advertisements	(70)	Brain Functions	(42)
Advertising Effectiveness	(62)	Brain Research **	(96)
Aesthetic Reading	(43)	Browsing	(38)
Aesthetics	(51)	Bus Drivers	(41)
Affective Domain	(39)	Business Law * ◆	(40)
Africans	(36)	Business Role	(35)
Age Bias	(35)	Bylaws * ◆	(50)
Aggregation (Data)	(43)	Calendars	(30)
Aleut (Tribe) * ◆	(35)	Calibration	(37)
Alpha Coefficient	(32)	Canadian Studies * ◆	(54)
Alumni Relations	(33)	Caregiver Role	(37)
Ambulatory Health Care	(46)	Case Management	(71)
Analogical Reasoning	(70)	Categorical Data	(39)
Analogies *	(97)	Cathode Ray Tubes	(31)
Analogy **	(81)	Causal Inferences * ◆	(58)
Analytical Chemistry	(37)	Cause Effect Relationship	(36)
Anaphora *	(62)	Ceremonies	(39)
Angoff Methods	(53)	Change Analysis	(30)
Apache (Tribe) * ◆	(42)	Character Education	(40)
Archivists	(31)	Chemicals	(32)
Argumentativeness	(31)	Child Behavior	(74)
Arthritis	(30)	Child Protection	(31)
Asians *	(62)	Child Protective Services	(31)
Aspect (Verbs)	(39)	Childrens Writing	(16)
Athletic Trainers	(38)	Chinese People *	(97)
Attitudes toward Disabled	(36)	Choctaw (Tribe) * ◆	(42)
Audience Research	(42)	Choice Behavior	(48)
Augmentative Communication Systems	(56)	Class Inclusion	(39)
Australians	(30)	Classical Test Theory	(36)
Authentic Materials	(55)	Clauses	(37)
Author Reader Relationship	(64)	Client Behavior	(30)
Author Text Relationship	(55)	Coaching	(58)
Authority **	(88)	Coalitions	(39)
Automobile Industry	(37)	Coastal Zones	(36)

*   Carry-overs from Sep87 list.
** Carry-overs from earlier (1985, 1983, 1981) lists.
◆   Carry-overs with fewer than 15 postings since Sep87.

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FIGURE VIII-1-4a

SEPTEMBER 1991 -- HEAVILY POSTED IDENTIFIERS
BY CLEARINGHOUSE

Listings are based on:
(1) responsibility for highest postings;
and/or
(2) scope area.

Parenthetical notations following identifiers, e.g., (EA/CE/IR), indicate secondary responsibility.

- -

CE

	Postings
Adult Performance Level ** ♦	(75)
Affective Domain (CS/PS)	(39)
Automobile Industry	(37)
Business Law * ♦	(40)
Competency Tests (EA/CS/TM)	(40)
Correctional Officers	(35)
Criminal Justice (HE) * ♦	(48)
Criminal Justice System (SO/UD)	(38)
Curriculum Management * ♦	(46)
Educational Awareness (CS/RC)	(35)
Emergency Medical Services * ♦	(48)
Employee Participation	(34)
Employer Surveys (JC) ** ♦	(55)
Environmental Health (SE) ** ♦	(62)
Exoffenders (CG) * ♦	(45)
Fact Sheets (SO/TM/IR)	(92)
Federal Agencies (IR) * ♦	(52)
Food Production (SE) * ♦	(42)
Formal Education (PS/RC/SO)	(30)
Gardening	(38)
Goal Setting (CG/EA/RC) **	(155)
Hands On Experience (SE/IR)	(38)
Hazards (PS)	(45)
Health Delivery Systems (RC/SP)	(32)
Informal Education (SE/PS/SO/IR) **	(130)
Learner Centered Instruction (FL/IR)	(35)
Learning Environment (IR/EA/HE/PS) **	(91)
Life Planning (CG/RC) ** ♦	(60)
Linkage (IR/EA) ** ♦	(111)
Multinational Corporations (FL/CS)	(42)
National Longitudinal Surveys (TM/UD)	(36)
Older Workers (CG) *	(91)
Partnerships (RC/UD) * ▰AA	(139)
Partnerships in Education(EA/HE) ▰AA	(109)
Preapprenticeship Programs ** ♦	(90)
Priorities (EA/PS/RC) *	(66)
Private Industry Councils *	(64)
Professional Role (IR/PS) *	(84)
Reauthorization Legislation **	(121)
Recession (SO) * ♦	(50)
Resource Utilization (RC) * ♦	(49)
Social Security (CG/SO) *	(156)
Social Security Benefits (CG)	(41)
Stress (Biological) (RC) **	(77)
Support Services (RC/PS/IR)	(43)

Temporary Employment (HE)	(38)
Transcription	(39)
Workplace Literacy	(148)

CG

	Postings
Adolescent Suicide (EA)	(36)
Age Bias (CS/PS/UD)	(35)
Avoidance Behavior	(39)
Bereavement	(52)
Blame	(30)
Case Management (EC/PS)	(71)
Client Behavior	(30)
Cognitive Complexity (CS)	(38)
Commitment **	(127)
Community Mental Health Centers (RC)	(45)
Computer Assisted Counseling *	(65)
Computer Assisted Guidance (CE) *	(53)
Confrontation	(30)
Counseling Psychology * ▰CG	(155)
Cross Cultural Counseling	(50)
Differentiation (PS/TM)	(45)
Dominant Behavior (PS)	(30)
Emotions	(61)
Euthanasia (EC) * ♦	(43)
Faking (Testing) (TM)	(33)
Family Systems Theory	(57)
Family Therapy (PS)	(36)
Gestalt Psychology (CS/SO)	(41)
Halo Effect (TM)	(30)
Happiness (PS) *	(54)
Hollands Theory of Occupational Choice	(67)
Homophobia ▰AA	(30)
Honesty (CS/EA/PS)	(37)
Housework (CE/PS)	(39)
Identity Formation *	(88)
Individuation (PS)	(34)
Information Analysis (CE/IR) ** ♦	(49)
Informed Consent (HE)	(57)
Job Stress (EA/CE) * ♦	(49)
Life Cycles (CE) **	(86)
Life Expectancy (SO)	(33)
Life Transitions	(40)
Loss	(41)
Machiavellianism (CS)	(35)
Maslows Hierarchy of Needs (CE/EA/RC) * ♦	(50)
Meaningfulness (PS)	(34)

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* Carry-overs from Sep87 list.
** Carry-overs from earlier (1965, 1983, 1981) lists.
♦ Carry-overs with fewer than 15 postings since Sep87.

FIGURE VIII-1-4b

ERIC Facility; the ✓CG means submitted by the ERIC Clearinghouse on Counseling and Personnel Services.

See item D.6.e.(4) of this section, "Rule of Specificity," for more discussion on concept-type Identifiers and when they should be added to the *Thesaurus*.

c. **Is It Useful?**

Candidate Descriptors should be evaluated on the basis of their usefulness in communication, indexing, and retrieval. In general, the utility of terms can be estimated by considering the relative frequency of their occurrence in the literature; the relative frequency of their previous indexing use as Identifiers; their proximity in meaning to existing Descriptors; their technical precision and acceptability in the field; their transience, stability, and "staying power." These factors are interdependent and must often be considered together.

d. **Is It a Synonym?**

An especially important consideration in recommending a candidate Descriptor is its closeness in meaning to terms already in the *Thesaurus*. To prevent unwarranted scattering of similar information, terms having certain close relationships should be considered synonyms, i.e., synonymous from the practical point of view of retrieval.

This guideline encompasses many near- or quasi-synonymous terms that would not be considered as synonyms in ordinary contexts. Fine distinctions based on dictionary definitions are not important if they do not hold up from the point of view of searching. The following examples illustrate groups of terms that may be considered synonyms for the purposes of retrieval.

- CITY SCHOOLS (Pairs of "pure" synonyms.)
  URBAN SCHOOLS

  CLASSIFICATION
  CATEGORIZATION

  SIGHT
  VISION

- ACADEMIC ACHIEVEMENT (Usage is indistinguishable in the literature.)
  ACADEMIC PERFORMANCE

  ADMINISTRATION
  MANAGEMENT

- COLLEGE FACULTY ("Faculty" is technically broader than "teachers";
  COLLEGE TEACHERS yet, "faculty" is the accepted term used in the literature, as well as in "real life," for postsecondary instructional staff.)

● DROPOUTS SCHOOL DROPOUTS EARLY SCHOOL LEAVERS	(For purposes of efficient retrieval, "dropouts" and "school dropouts" are considered synonymous; "early school leavers" is the British equivalent of the U.S. "school dropouts.")
● CAREER CHANGE EMPLOYMENT CHANGE JOB CHANGE OCCUPATIONAL CHANGE VOCATIONAL CHANGE WORK CHANGE	(Subtle distinctions among these terms might be made, but it is difficult to imagine a search query that should not use all of them. USE references in the Rotated Display are helpful in discovering synonymous relationships; for instance, see the word "job(s)" in the Rotated Display and how it leads to each of the other near-synonyms shown at left.)
● PHYSICAL DISABILITIES PHYSICALLY DISABLED TYPEWRITING TYPISTS	(Distinctions between "person" terms and corresponding "condition" or "function" terms often cannot be realistically teased apart in indexing.)
● MATURITY IMMATURITY NUTRITION MALNUTRITION	(Terms at opposite ends of conceptual continuums should be treated as synonyms when it is unrealistic to consider dealing with one without the other.)
● WELDING ARC WELDING GAS WELDING	(The example shows a broad term followed by two narrower terms in an area peripheral to the educational disciplines and to the interests of the ERIC system. These terms may be treated as synonyms because of their low usage level.)

Once it has been decided to consider two or more terms as synonyms for purposes of indexing and retrieval, one term must be chosen as the preferred term and entered as a Descriptor. The alternative "non-preferred" term(s) are entered as USE references (see item D.5).

Some nearly synonymous pairs or groups of terms in the ERIC *Thesaurus* are not treated as synonyms (i.e., preferred and non-preferred) because of a real need to retrieve the concepts separately. These are terms in core areas of immediate interest to the educational community and include such pairs as:

● ADVANTAGED and DISADVANTAGED;

● COLLEGES and UNIVERSITIES;

● GUIDANCE and COUNSELING.

When this situation occurs, the two terms must be cross-referenced, and Scope Notes must generally be written that will permit indexers and searchers to distinguish the terms and use them consistently.

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e. **How Should It Be Structured as a Candidate Descriptor?**

All subject concepts not adequately covered by existing Descriptors and not "true," proper-noun type Identifiers should be evaluated as "potential" *Thesaurus* terms. Potential terms that are evaluated as synonyms to existing Descriptors should be added as UFs to those Descriptors (see item D.5 of this section). If synonymity is ruled out, potential terms are considered as "candidate Descriptors" and must be "scoped" (defined) then "fitted" into the structure of the *Thesaurus*. The mechanism for submitting candidate Descriptors (and all *Thesaurus* changes) is the "Vocabulary Development Form," discussed fully in item "E" below. As an indexer completes the form (either manually or via a computer template), a number of significant points should be kept in mind:

(1) **Ambiguity**

Ambiguity in terminology, created by such factors as near synonyms, homographs, differences in spelling, word forms, and hierarchical treatment, is a barrier to effective communication. In preparing a new term for the *Thesaurus*. the avoidance of ambiguity should be a first consideration. Ambiguous terminology leads to inconsistent indexing and irrelevant search output.

Ambiguity can usually be avoided by preparing clear, precise Scope Notes indicating how terms should be used. Parenthetical qualifiers, e.g., INEQUALITY (MATHEMATICS), SECURITY (PSYCHOLOGY), are particularly helpful in preventing term misuse.

(2) **Specialization**

Each area of educational technology usually develops its own specialized vocabulary or jargon to express the concepts peculiar to its own interests. Analysis of these specialized vocabularies reveals that many of the terms thought by a particular specialty perhaps to be unique are actually identical to (or closely related to) terms used in other areas of technology. Moreover, it is quite common for technologists in one area to borrow terms from another and to use them for their own purposes. As an example, the term "Transformation Theory" is used in both the fields of linguistics and mathematics to refer to highly different concepts. Indexers must be aware of the fact that a candidate Descriptor within their Clearinghouse's scope of interest may have other meanings in other fields. The acceptability of a term can be researched by consulting dictionaries, encyclopedias, handbooks, and other authoritative reference materials. (See item C.2 in this section.)

If a term is suspected of having multiple meanings, the Clearinghouses whose "scopes" cover the various meanings should be consulted. Each Clearinghouse has a Vocabulary Coordinator to whom questions on vocabulary matters may be directed. Throughout the Descriptor appraisal and generation process, these Vocabulary Coordinators, as well as the central lexicographic staff at the ERIC Facility, should be considered resource persons that the indexer can contact whenever necessary for advice and information.

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(3)   Appearance in Other Thesauri

Terminological consistency among thesauri is a desirable goal, and the vocabulary precedents established by other thesauri and subject heading lists are followed by ERIC whenever practicable. If a candidate Descriptor is included in reputable existing thesauri as a main, indexable term (i.e., not as a USE reference), then the chances are that the concept is an acceptable one. Nevertheless, it must be carefully ascertained that the structure, parenthetical qualifier, and Scope Note for the term being used as a precedent do not conflict with the intended use within ERIC.

The following list includes the principal thesauri and subject heading lists used in ERIC lexicographic analysis. The first three thesauri (items #1-3) and their respective databases (Australian Education Index, British Education Index, and Canadian Education Index) are intertwined with ERIC in a long-term cooperative initiative called International ERIC (informally, InterEd).

1. *Australian Thesaurus of Education Descriptors*. Prepared by G.B. Lavender and M.A. Findlay. Australian Council for Educational Research Limited, Hawthorn, Victoria, Australia.

2. *British Education Thesaurus*. Leeds University Press, Leeds, U.K.

3. *Canadian Education Thesaurus* (bilingual French & English). Micromedia Limited, Toronto, ON.

4. *Child Abuse and Neglect Thesaurus*. National Center on Child Abuse and Neglect, Washington, DC.

5. *Computer Database Thesaurus & Dictionary*. Information Access Company, Foster City, CA.

6. *CRS Thesaurus/Legislative Indexing Vocabulary*. Library of Congress, Congressional Research Service, Washington, DC.

7. *European Education Thesaurus* (formerly EUDISED Thesaurus— available in the nine official languages of the European Community). Office for Official Publications of the European Communities, Luxembourg.

8. *ILO Thesaurus*. International Labour Office, Geneva, Switzerland.

9. *INSPEC Thesaurus*. Institution of Electrical Engineers. INSPEC/IEEE Service Center, Piscataway, NJ.

10. *Library of Congress Subject Headings*. 3 vols. Washington, DC.

11. *Medical Subject Headings* (MeSH). 3 vols. National Library of Medicine, Bethesda, MD.

12. *NASA Thesaurus.* National Aeronautics and Space Administration, Washington, DC.

13. *National Criminal Justice Thesaurus.* National Institute of Justice/NCJRS, Rockville, MD.

14. *Nursing & Allied Health (CINAHL) Subject Heading List.* CINAHL Corporation, Glendale, CA.

15. *PAIS Subject Headings.* Public Affairs Information Service, Inc., New York, NY.

16. *SPINES Thesaurus* (English/Multilingual edition). 2 vols. UNESCO, Paris, France.

17. *SPORT Thesaurus.* Sport Information Resource Centre, Gloucester, ON.

18. *Thesaurus of Aging Terminology.* American Association of Retired Persons, Washington, DC.

19. *Thesaurus of Engineering and Scientific Terms* (TEST). Office of Naval Research (Project LEX), Washington, DC.

20. *Thesaurus of Psychological Index Terms.* American Psychological Association, PsycINFO User Services, Arlington, VA.

21. *Thesaurus of Sociological Indexing Terms.* Sociological Abstracts, Inc., San Diego, CA.

22. *UNESCO Thesaurus.* 2 vols. Compiled by Jean Aitchison. UNESCO, Paris, France.

23. *UNESCO:IBE Education Thesaurus.* UNESCO, Paris, France.

24. *A Women's Thesaurus.* Edited by Mary Ellen S. Capek. Harper & Row, Publishers, Inc., Hagerstown, MD.

(4)   **Previous Indexing**

Some new *Thesaurus* terms require historical references to previous indexing practices in their Scope Notes. This occurs in two specific situations:

● When a new term was previously a UF.

In this case, the following kind of note is added to the Scope Note field, after the definition, or alone if no definition appears:

(NOTE: PRIOR to _Month & Year, e.g., Mar80_, THE INSTRUCTION " _New Term_ , USE _old USE reference_ " WAS CARRIED IN THE THESAURUS)

● When a new term was not a UF, but was previously represented by some other term(s) not obvious from the new term's display. Examples are:

(NOTE: PRIOR to __Month & Year, e.g., May81__, " __term xyz__ " WAS FREQUENTLY USED TO INDEX THIS CONCEPT)

(NOTE: PRIOR to __Month & Year, e.g., Dec89__, THIS CONCEPT WAS INDEXED UNDER " __term xyz__ ")

Such notes are usually not necessary when a new term has a BT (broader term), i.e., has an "obvious" place to go to gather previous postings.

Also, these notes would not be needed if the previous postings were light enough to permit reindexing or if there were Identifier postings that could be transferred. (See the emphasis ERIC places on reposting under item "E," "Vocabulary Development Form.")

(5)   **Rules**

The indexer generating a candidate Descriptor recommendation should be thoroughly familiar with the *Rules and Conventions for Descriptors* (item "D" of this section) before attempting to complete the Vocabulary Development Form. These rules contain detailed information on the characteristics of ERIC Descriptors and on the cross-references, Scope Notes, and other data that make up Descriptor displays. The rules should be applied equally by both the generator of the *Thesaurus* recommendation and the lexicographer acting on it.

2.   **The Research Process**

Indexers or users wanting to add or change something in the ERIC *Thesaurus* often ask "Where do I start?" and "What do I do when I get there?" This section will attempt to answer these basic questions.

a.   **Identifiers**

(1)   **Using Them**

Subject index terms evolve in ERIC from Identifier status to Descriptor (*Thesaurus*) status as they are posted to document and journal article citations to describe subject content. They will not evolve and will languish, however, if they are not posted when they should be. Clearinghouses need to appreciate and understand Identifier functions and applications and not be reluctant to use these terms. Certain categories of Identifiers should always be indexed if they represent document subject matter; these are listed under "Identifiers," in the *Indexing Reminders* section of the *ERIC Indexing Handbook (Clearinghouse Indexing Practices)*, Appendix C of the EPM. Indexers should familiarize themselves with these reminders and try to apply them consistently.

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(2)   Keeping a Clearinghouse List

Each Clearinghouse needs to maintain a list of new Identifiers, not yet in the IAL but used in indexing, for all indexers in the Clearinghouse to share. Each Clearinghouse Vocabulary Coordinator should keep a term file of definitions, synonyms, etc., found in incoming/inprocess documents for use in future Descriptor consideration and justification.

b.   "Heavily Posted Identifiers" List

If the question is which term to work on, the best place to look first is the "Heavily Posted Identifiers" list discussed in item C.1.b of this section and illustrated in Figure VIII-1-4. Terms appearing on this list have been "prioritized" by the Facility lexicographic staff as needing in some way to be represented in the *Thesaurus* vocabulary, either as main terms or as USE references. A new list is created with each new edition of the *Identifier Authority List* (IAL). The particular list shown in Figure VIII-1-4 was restricted to terms with 30 or more postings. "Heavily Posted Identifiers" are displayed in two ways: one permutation lists all of the terms alphabetically. while the other sorts the terms Clearinghouse-by-Clearinghouse based on scope area and/or responsibility for highest postings. Although arranged by Clearinghouse, anyone in the ERIC network can work on any of the terms at any time. The only preliminary activity that is needed is to notify the rest of the network of one's intentions; this can be done by transmitting the list of terms being worked on to the ERIC Vocabulary Review Group (use of E-mail for this purpose is recommended). The Facility lexicographic staff periodically updates the Heavily Posted Identifiers list by redlining terms received and acted upon, and indicating responsible Clearinghouses; this serves as an activity/status report for the network.

c.   Vocabulary Tools

Before indexers begin Descriptor (*Thesaurus*) development activity, it is helpful to have available a basic collection of dictionaries and thesauri with which to consult. The minimum, general collection recommended by the Facility lexicographic staff is listed in Figure VIII-1-5. (A variety of dictionaries is necessary in order to have at one's disposal all possible meanings of a term, and the available multiplicity of interpretations given those meanings by diverse lexicographers.)

d.   VDF Form -- Templates

ERIC *Thesaurus* additions and changes have various lexicographic criteria and format characteristics that the ERIC computer system will accept. These elements have been built into the ERIC Vocabulary Development Form (VDF) (see item E of this section), and indexers preparing for vocabulary development work should either have a stack of paper VDFs on hand or the form on a template that can be copied and used again and again on their microcomputers. See Figure VIII-1-8 for a paper VDF (filled-in example). See Figure VIII-1-9a for a VDF microcomputer template and Figure VIII-1-9b for an example of what that template might look like when completed. Paper VDFs are obtained from the ERIC Facility lexicographic staff. For anyone needing a blank VDF template, the one illustrated in Figure VIII-1-9a is available in WordPerfect 5.1 format from the ERIC Facility. Two additional

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LEXICOGRAPHIC AUTHORITIES

Dictionaries

Webster's Ninth New Collegiate Dictionary. Springfield, MA: Merriam-Webster Inc.

American Heritage Dictionary. College Ed. Boston: Houghton Mifflin.

Random House Webster's College Dictionary. New York: Random House.

Oxford American Dictionary. New York: Oxford Univ Press.

An unabridged dictionary.

Thesauri

Thesaurus of Psychological Index Terms (6th ed). Washington: American Psychological Association, 1991. $65 ($49 for members of the APA).
> APA, Order Department, P.O. Box 2710, Hyattsville, MD 20784. (800) 336-4980.

Thesaurus of Sociological Indexing Terms (2d ed). San Diego: Sociological Abstracts Inc., 1989. $62.
> SocAbs, P.O. Box 22206, San Diego, CA 92122.

Loo, Shirley, ed. CRS Thesaurus/Legislative Indexing Vocabulary (19th ed). Washington: Congressional Research Service, 1990.
> Library Services Div., CRS, Library of Congress, Washington, DC 20540. (Free, but hard to obtain directly; CRS advises requesting via your Congressperson.) (CRS/Education Microthesaurus available also.)

National Criminal Justice Thesaurus. Rockville, MD: National Institute of Justice, 1990. Call for price [1989 ed was $25 (U.S.)].
> National Institute of Justice/NCJRS, Department F, P.O. Box 6000, Rockville, MD 20850. (301) 251-5500.

Capek, Mary Ellen S., ed. A Women's Thesaurus. New York: Harper & Row, 1987. $37.50 + $2 shipping.
> Harper & Row, Publishers, Inc., Mail Order Dept., P.O. Box 350, Hagerstown, MD 21741.

British Education Thesaurus (1st ed). Leeds, U.K.: Leeds University Press, 1988. 45 pounds (check newspaper for USD). (2d ed due out in Oct91.)
> Leeds University Press, Univ. of Leeds, Leeds LS2 9JT, UNITED KINGDOM.

NASA Thesaurus (1988 ed). Washington: National Aeronautics and Space Administration. Vol. 1, Hierarchical Listing—$40. Vol. 2, Access Vocabulary—$20. Vol. 3, Definitions—$15.
> Available from: National Technical Information Service, Dept. of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

Medical Subject Headings, MeSH (1992). Bethesda, MD: National Library of Medicine. Annotated Alphabetic List—$40 (PB92-100031). Tree Structures—$35 (PB92-100049). Permuted Medical Subject Headings—$31 (PB92-100056).
> Available from: National Technical Information Service (address above); prices are for U.S., Canada, and Mexico.

SPINES Thesaurus (English/Multilingual 1988 edition of the 1984 revision). Paris, France: UNESCO. Over 11,000 science and technology terms with multilingual cross-references (SPINES is an acronym for "Science and Technology Policy Information Exchange System"). $57 for two volumes: Vol. 1, Alphabetical List; Vol. 2, List of Int'l Organizations & Projects, Thematic List, Permuted List, French/Spanish/Portuguese to English Lists.
> Available from: UNIPUB, 4611-F Assembly Drive, Lanham, MD 20706-4391. (301) 459-7666.

FIGURE VIII-1-5: LEXICOGRAPHIC AUTHORITIES (MINIMUM COLLECTION)

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examples of what completed VDF templates might look like are shown in **Attachment #2** of this section.

e.   **Precedence**

It is accepted practice that indexers and lexicographers should look for and generally follow the precedents laid down by those who came before them. For example, the ERIC *Thesaurus* and IAL favor PROGRAMING over PROGRAMMING, CATALOGING over CATALOGUING, DIALOG over DIALOGUE.

f.   **Expedience (or "Two for the Price of One")**

When working on one term, references to others will be seen or will come to mind. Often it is beneficial in terms of time and effort to work on several at the same time.

RECENTLY COMPLETED THESAURUS RECOMMENDATIONS	–>	OTHER TERM(S) COMPLETED AT THE SAME TIME	
CAREER INFORMATION SYSTEMS	–>	RT	JOB BANKS
RESISTANCE (PSYCHOLOGY)	–>	NTs	RESISTANCE TO CHANGE RESISTANCE TO TEMPTATION
UF Accents (Vocal Stress)	–>	UF	Accents (Dialects)
TROUBLESHOOTING	–>	NT	DEBUGGING (COMPUTERS)

Thus, for instance, in researching TROUBLESHOOTING above, the indexer/lexicographer encountered sufficient documents and other information on DEBUGGING, to make defining and structuring two terms no more demanding than doing one.

g.   *Five Easy Steps* for *Thesaurus* Recommendations

The steps numbered 1-5 below are the tasks needed to complete most Descriptor additions and changes.

(1)   Scope Notes

The first thing a Descriptor or *Thesaurus* term usually needs is a definition so that indexers and users will understand how the term is used or will be used. Other database thesauri (see **Figure VIII-1-5** and item B.6 of this section) should be checked to see how they define and use a term; definitions can be borrowed "as is," without attribution. Care should be taken to ensure that plural Scope Notes are used for plural terms and singular Scope Notes for singular terms.

Dictionaries and glossaries should also be checked if they are relevant to the context of the term being researched (i.e., likely to have the term). The ERIC database itself should be searched, titles examined from

the printouts, and appropriate documents selected for detailed examination usually via microfiche. Definitions selected or culled from the actual ERIC literature are usually more meaningful and comprehensive than those found in dictionaries. Much of this work will have already been done, however, if one has remembered to document the term as it was indexed on new accessions (see item C.2.a.(2), "Keeping a Clearinghouse List," above).

Definitions found should be keyed or written out one by one (with authority titles noted before or after each). Three definitions from three authorities (ERIC documents are accepted as authorities) should be the minimum number considered. But one should not get carried away! Definition data beyond what normally would fit on a page of 12-point type is probably excessive. The idea is to get several definitions from different authorities that can be examined as one package, and from which a final definition or Scope Note can be synthesized. All syntheses, from the first attempt to the final version, may be accumulated, providing a record of the processes one goes through in defining a term. Such documentation is useful to the final term-recommendation package submitted to the Facility lexicographic staff.

Care should be taken to parenthetically qualify a term that is ambiguous, e.g., SYMPTOMS without qualification is too broad. It is also helpful for terms that are defined restrictively to give the *Thesaurus* user somewhere else to go, e.g.:

RESTRICTIVE SCOPE NOTE DEFINITIONS	ALTERNATIVES GIVEN IN PARENTHETICAL INDEXING NOTE (OF SCOPE NOTE)
DEFENSE MECHANISMS -- Intrapsychic strategies used by individuals to avoid or confront unreasonable or undesirable impulses, feelings, or ideas	(Note: For physiological or zoological defense mechanisms, use "Defense Reactions (Physiology)" or "Animal Defenses" as Identifiers)
PAIN -- Distress and suffering caused by injury or disease of the body	(Note: Do not use for emotional pain, for which see the Identifier "Emotional Distress")
DEPENDENCY (PERSONALITY) -- Reliance on other persons or things for comfort and support	(Note: Do not use for drug or economic dependence, for which see DRUG ADDICTION or the Identifier "Dependency (Economics)")

Additionally, the Scope Note may need to advise indexers and users of indexable Identifiers in addition to available Descriptors. For example, the Scope Note for PAIN advises "see also Identifiers "Low Back Pain," "Pain Control," and "Pain Tolerance" -- this reminds indexers of Identifiers in addition to the most specific available Descriptor and searchers of additional available retrieval terms.

(See rules and conventions for Scope Notes, item D.4 of this section.)

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(2)   UF/USE Terms

These become more apparent as a term is analyzed and scrutinized in the course of the vocabulary development process. UFs should be documented when encountered in the literature and, when readied for *Thesaurus* input, should each be searched free-text in ERIC to reveal additional variations. Scattered or inconstant Identifier forms provide many clues. Providing that the ERIC criteria are met, the most commonly used form would normally be picked as the main *Thesaurus* term.

(See rules and conventions for UF/USE References, item D.5 of this section.)

(3)   BTs/NTs (Hierarchical / Generic Structuring)

Properly placing a term in its proper *Thesaurus* hierarchy is not especially complicated if one remembers to compare similar or parallel terms' hierarchies (e.g., HOMICIDE/SUICIDE generic trees) and to find the best fit therein. Indexers should evaluate potential hierarchical placements all the way up the hierarchy. For example, PRIVATE SECTOR might look suitable initially as an NT in the display of ECONOMICS, but ECONOMICS is an NT of LIBERAL ARTS, and it is obvious from looking at the total LIBERAL ARTS hierarchy (in the *Thesaurus* Hierarchical Display) that PRIVATE SECTOR does not belong there.

(See rules and conventions for Narrower Terms/Broader Terms, item D.6 of this section.)

(4)   RTs (Related Terms) / Group Code

Related Terms (RTs) can be collected in the <u>database search part</u> of the vocabulary development exercise, described in item C.2.g.(5) immediately below (as opposed to the <u>authority search (Scope Note) part</u> described in item C.2.g.(1) above). The Descriptors indexed on the accessions retrieved in the search of a given term should be looked at accession-by-accession and the ones recorded that appear to be closely related to the term in question. The recorded terms should be alphabetized, then evaluated in the context of each of their reciprocal displays. Frequency of concurrent occurrences is a possible relatedness gauge. NTs of a single BT are often RTs of each other (e.g., MOODS/ANXIETY/MORALE are NTs of the BT PSYCHOLOGICAL PATTERNS and RTs of each other). Proliferation of RTs can usually be avoided if one avoids the redundancy of carrying both general/broader and specific/narrower terms (e.g., *not* carrying FAIR USE (COPYRIGHTS) in the displays of FILMS, PUBLICATIONS, and PLAGIARISM when the general term COPYRIGHTS is already there).

By noting the Group Codes of the various terms considered as possible cross-references, one will arrive at a reasonably good idea of the appropriate Descriptor Group for a term by the time cross-referencing has been completed.

(See rules and conventions for Related Terms and Descriptor

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Groups, items D.7 and D.3 of this section, respectively.)

(5)   Backfile

The back of the Vocabulary Development Form asks for two impact statements regarding each Thesaurus transaction, i.e., (1) Impact on the Thesaurus, and (2) Impact on the Database. The "Impact on Thesaurus" block is intended as a reminder to always consider the "terminology terrain" encompassing a given concept. Preparers use the space provided to include information that will support or justify their recommendation. The Facility lexicographic staff generally copies data word-for-word from this block for use in the Vocabulary Status Report, disseminated to the ERIC Vocabulary Review Group. The block can be left blank. Contrived, "pat" phrases such as "this term is a rapidly growing concept, important to the field supported by this Clearinghouse," which carry no substantive information, should be excluded.

Indexers and other preparers of the Vocabulary Development Form frequently approach the "Impact on Database" block with more trepidation than any other element on the form. This is because the decision on how much to search is often subjective, based on a conception of what "typical" users might want or need. Preparers must put themselves in the place of the users, searching as comprehensively (as far back in time) as judged to be reasonable and practical for the user group members. ★Searches should consider Identifier hits first, followed by searches of titles, full-text (abstract, etc.)/latest years, and full-text/other years, in that order. Also, vocabulary searching is usually more cost-effective if done using a CD-ROM system. The complete full set of citations found can first be winnowed down considerably by removing those having one or more of the Identifiers selected for transfer (and listed on the VDF form). Upon achieving the set of citations after "notting out" the Identifiers, a CD-ROM system can be used to page down through the full records one-by-one. The preparer should mark on the computer or on paper those to be posted major or minor while "Xing out" any that are not relevant. As the exercise progresses, additional Identifiers for transfer will be identified. A list of potential RTs should be made from the index terms in each record (see item on "RTs/Group Code" above).

(Note: Because most proposed Descriptors worked on by Clearinghouse staff are within that particular Clearinghouse's scope area, vocabulary development searching usually replicates existing, inhouse searching done as part of user services. Any new searches that are required should ordinarily still be appropriate for inclusion in the Clearinghouses' collections of convenient "search saves.")

Thesaurus changes, like new terms, are recommended and entered using the Vocabulary Development Form. Preparers should input only the part of a term display that needs to be changed. It is helpful to avoid minor format changes like DOWNS SYNDROME --> DOWN SYNDROME, LIMITED ENGLISH SPEAKING --> LIMITED ENGLISH PROFICIENT, where alternatives and originals are alphabetically adjacent, until such time

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as the entire ERIC file can be made consistent via a reload.

h.   **Other Reminders**

Proposed new or modified Descriptor displays are always documented on the Vocabulary Development Form. In addition to the basic recommendation itself, each form submitted to the ERIC Facility for *Thesaurus* consideration generally should include the following:

(a)   Back of Form

i)   3+ authorities (definitions or Thesaurus displays);
ii)   Identifier list (terms to be transferred to Descriptors);
iii) Accession number list with major/minor distinctions (excludes accessions posted by Identifiers in above list).

(b)   Computer search

i)   Search strategy;
ii)   Typed/Printed Records -- may be marked up with the preparer's major/minor designations, explanatory notations, etc.; may be submitted on floppy disks (3½- or 5¼-inch); printouts of unedited records, particularly of those using previously listed Identifiers (from "Identifier List," item ii above), normally sh.uld not be sent to the Facility.

(c)   Copies of pages from ERIC documents and specialized dictionaries, containing definitions or other explanatory materials (copying of standard dictionary pages is unnecessary).

D.   Rules and Conventions for Descriptors

1.   **General**

The rules and conventions that follow have been designed to help ERIC indexers and lexicographers make consistent decisions relating to the addition and modification of terms in the *Thesaurus of ERIC Descriptors*. They are based on two earlier ERIC publications:

●   ED 033 740---*Rules for Thesaurus Preparation*, 2nd edition. September 1969. Prepared by the Panel on Educational Terminology (PET)*, U.S. Office of Education.

●   ED 188 621---*VIP Manual: Guidelines and Procedures for ERIC Vocabulary Development*. December 1978. Prepared by Barbara Booth, first coordinator of the 1977-80 ERIC Vocabulary Improvement Project (VIP).*

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*For more discussion, see the Attachment #1 to this section, History of the Thesaurus of ERIC Descriptors.

Rules for Descriptor selection and construction are covered below under "Main Terms." This is followed by detailed discussions of each of the parts of main term displays, including "Descriptor Group" codes, "Scope Notes" or term definitions, and cross-references. Cross-references include Used For/USE References, Broader/Narrower Terms, and Related Terms.

These rules must be adhered to in the completion of the Vocabulary Development Form (see item "E" of this section). The rules follow the standards of practice advocated by the *American National Standard Guidelines for the Construction, Format, and Maintenance of Monolingual Thesauri* (ANSI/NISO Z39.19-199x).[**]

2.   **Main Terms**

    a.   **General**

The concepts "main term" and "Descriptor" are equivalent when used in the sense of <u>controlled</u> thesaurus vocabularies. Main terms are the preferred, postable terms in a thesaurus; they are used to index and search (i.e., describe and retrieve), in a consistent manner, the subject content of documents entered in an information system.

Any information retrieval Thesaurus will also contain "non-preferred" synonyms or quasi-synonyms, included to provide alternative pathways to the main terms or Descriptors. In ERIC, these are referred to as "USE references."

The following discussion focuses on the selection and construction of ERIC "Descriptors." See item D.5 of this section for details on "USE references."

    b.   **Descriptor Selection**

A Descriptor is any single or multiword term that appears in the *Thesaurus* and that may be used for indexing a document or journal article. Rules for selecting Descriptors are as follows:

        (1)   **Appearance in Literature**

★Descriptors should represent important concepts actually found in the literature of the database (as contrasted with concepts arrived at theoretically, independent of the literature). They should also reflect the actual language used in the literature to express such concepts.

        (2)   **Acceptability to ERIC Users**

Descriptors selected should have an agreed-upon meaning and should be acceptable terminology for relevant user groups. The judgment of acceptability will involve decisions as to obsolescence, negative connotations, colloquialness, and other factors.

Acceptability must be considered in terms of the wide-ranging scope of

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[**]Proposed 1990 revision of ANSI Z39.19-1980. Developed by the National Information Standards Organization (NISO); circulated 1/10/90 among NISO voting members for comment.

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education and its highly diversified user community. Care should be taken to avoid parochial points of view. Compromise may be necessary when the terminology needs of separate areas of specialization are in conflict. (See also rule "(6)" under "Descriptor Construction" below.)

(3) **Usage Frequency**

Frequency of occurrence is a factor in establishing Descriptors. Records should therefore be kept of the number of times candidate terms have been used in indexing and/or searching.

NOTE: As a general rule of thumb, concepts should be considered candidate Descriptors after 5 usages as Identifiers and should be included somewhere in the structured *Thesaurus* vocabulary (either as Main or USE terms) after approximately 10 usages. Excluded from this rule are, of course, those Identifiers representing very specific entities that cannot qualify for Descriptor status (e.g., names of organizations, projects, people, specific equipment, geographic locations, etc.).

(4) **Multiword Descriptors**

Multiword Descriptors (bound terms, precoordinated terms, and others) should be used whenever single-word Descriptors cannot describe concepts adequately. Many problems of this type can be solved by the careful application of rule "(1)" above. The following points should be considered:

- Use of a multiword Descriptor is justified if any of the individual words in the multiword Descriptor could combine with other Descriptors so as to produce frequent false coordinations.

  Example: STUDENTS
  TEACHERS
  ATTITUDES
  STUDENT ATTITUDES
  TEACHER ATTITUDES

- Use of a multiword Descriptor is justified if the individual words of that multiword term are also unique Descriptors that, when coordinated with each other, would retrieve concepts different from that retrieved by the multiword term.

  Example: STUDENTS
  TEACHERS
  STUDENT TEACHERS

- If a single-word term is so general as to be virtually useless in manual searching (e.g., SCHOOLS), consider linking that term with another term (e.g., SECONDARY SCHOOLS).

(See also rule "(7)" under "Descriptor Construction" below.)

4 3

c. **Descriptor Construction**

(1) **Word Form**

Descriptors are limited to nouns and noun phrases; however, these include nouns derived from verbs and adjectives.

DISADVANTAGED   (from adjective)

DROPOUTS   (from verb + adverb)

PROBLEM SOLVING   (from verb + object)

STUDENT EVALUATION OF
 TEACHER PERFORMANCE (noun phrase)

(2) **Singular vs. Plural**

In choosing between singular and plural noun forms, the precedents of the ERIC *Thesaurus* (based on long-established rules of major indexing and subject cataloging operations) should be followed:

- The plural form should be used for "count nouns"---things or entities about which one asks "how many?," e.g.,

    COMPUTERS   SKILLS
    OCCUPATIONS   STUDENTS
    PROGRAMS   VISUAL IMPAIRMENTS

- The singular form should be used for "mass nouns"---nouns about which one asks "how much?" This includes those nouns derived from verbs and adjectives that represent processes, attributes or properties, and conditions, e.g.,

    ABILITY   EVALUATION
    ACHIEVEMENT   LEADERSHIP
    BACKGROUND   REGIONAL PLANNING
    DELINQUENCY   TIME

- Common usage should be followed for term types not covered by these general rules, e.g.,

    DEMOCRACY not DEMOCRACIES

(3) **Length**

Descriptors are limited to 50 characters, including blanks.

(4) **Character Limitations**

Allowable characters are limited to the letters A-Z, the Arabic numerals 0-9, and parentheses ().

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One of the reasons for restricting the use of parenthetical qualifiers to homographs and invalid Descriptors is to preclude the use of inverted entries. All words in the *Thesaurus*, whatever their position in the Descriptor, are accessible through the Rotated Display, thereby making inverted entries unnecessary. (See item B.7.b.(1).)

(8)   **Abbreviations and Acronyms**

Abbreviations and acronyms are inherently ambiguous and should generally be avoided as Descriptors. Exceptions to this rule are acronyms that have replaced their spelled-out versions in common discourse, either nearly (e.g., FLES) or totally (e.g., LASERS). Most acronyms that appear in the *Thesaurus* are non-indexable USE references (e.g., ETV, Use EDUCATIONAL TELEVISION).

(9)   **Sex Neutral Terminology**

Sex neutral Descriptors are preferred when a concept is intended to refer to both sexes, e.g.,

CRAFT WORKERS	not	CRAFTSMEN
ENLISTED PERSONNEL	not	ENLISTED MEN
HOMEMAKERS	not	HOUSEWIVES
LAY PEOPLE	not	LAYMEN
LABOR NEEDS	not	MANPOWER NEEDS
SEAFARERS	not	SEAMEN
NEEDLEWORKERS	not	SEAMSTRESSES

Preference of sex neutral language does not preclude the creation of legitimate population terms such as EMPLOYED WOMEN, FATHERS, WOMEN FACULTY, etc. Terminology of this nature is necessary when such specific population groups are the frequent subjects of documents.

d.   **Descriptor Format**

(1)   **Structure (Alphabetical Display)**

The structure of a typical Descriptor in the main Alphabetical Display (Working Copy) is illustrated in **Figure VIII-1-6**.

(2)   **Capitalization**

Although **Figure VIII-1-6** shows upper and lower case letters, the *Thesaurus* file is actually in all upper case, and the *Thesaurus* Working Copy used by ERIC indexers appears in all upper case. Indexers are required to transcribe terms in their Working Copies to the upper/lower case format of RIE/CIJE records---initial capital letters for all words, excluding prepositions, articles, and conjunctions when they are not the first word (e.g., Reduction in Force, In State Students).

The published *Thesaurus* editions appear in upper/lower case; these are programmatic conversions (done by the publisher) of the all upper case

52

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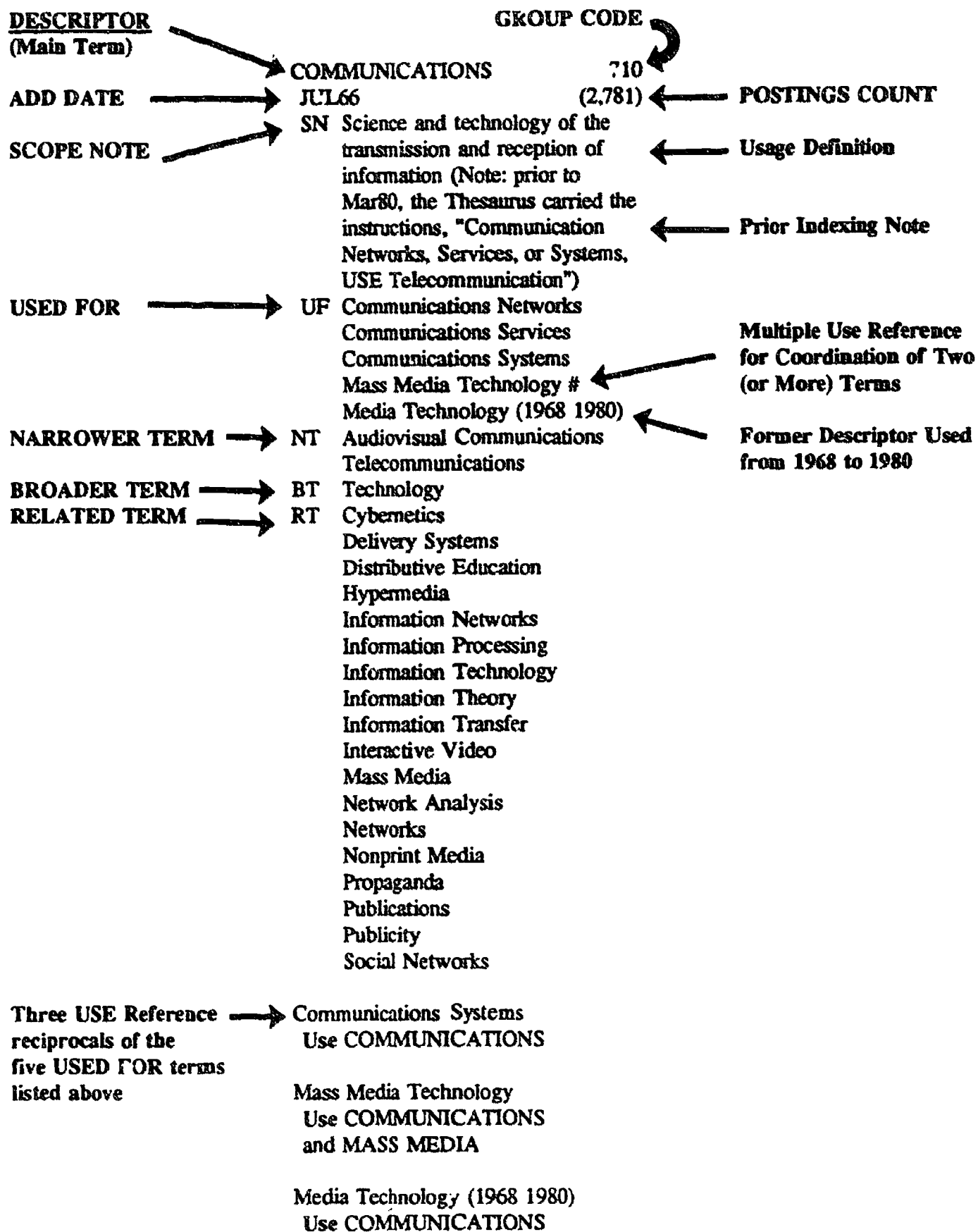
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DESCRIPTOR
(Main Term)   GROUP CODE

COMMUNICATIONS   710

ADD DATE ────────▶ JUL66   (2,781) ◀──── POSTINGS COUNT

SCOPE NOTE ────────▶ SN Science and technology of the
                            transmission and reception of   ◀──── Usage Definition
                            information (Note: prior to
                            Mar80, the Thesaurus carried the
                            instructions, "Communication   ◀──── Prior Indexing Note
                            Networks, Services, or Systems,
                            USE Telecommunication")

USED FOR ────────▶ UF Communications Networks
                          Communications Services   Multiple Use Reference
                          Communications Systems   for Coordination of Two
                          Mass Media Technology # ◀────   (or More) Terms
                          Media Technology (1968 1980) ◀──
NARROWER TERM ──▶ NT Audiovisual Communications   Former Descriptor Used
                          Telecommunications   from 1968 to 1980
BROADER TERM ────▶ BT Technology
RELATED TERM ────▶ RT Cybernetics
                          Delivery Systems
                          Distributive Education
                          Hypermedia
                          Information Networks
                          Information Processing
                          Information Technology
                          Information Theory
                          Information Transfer
                          Interactive Video
                          Mass Media
                          Network Analysis
                          Networks
                          Nonprint Media
                          Propaganda
                          Publications
                          Publicity
                          Social Networks

Three USE Reference ──▶ Communications Systems
reciprocals of the   Use COMMUNICATIONS
five USED FOR terms
listed above   Mass Media Technology
                            Use COMMUNICATIONS
                            and MASS MEDIA

                          Media Technology (1968 1980)
                            Use COMMUNICATIONS

FIGURE VIII-1-6: SAMPLE *THESAURUS* ENTRY

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Thesaurus master file.

(3)   Al_ abetization

Alphabetization of the main Alphabetical Display is word-by-word according to the following sequence:

Left Parenthesis;
Letters in Usual Order;
Numerals in Usual Order.

Word-by-word ordering (corresponding to the subject indexes of RIE and CIJE) began in 1980, as a conversion from letter-by-letter alphabetization.

(4)   **Group Codes**

The 3-digit Group Code is used to place a particular Descriptor in one of 41 Descriptor Groups. These groups are broad subject categories that provide an overview of the *Thesaurus* vocabulary. They can be used for general browsing or for searching. For more information, see item D.3 of this section.

(5)   **Add Dates**

An Add (entry) Date, e.g., APR90, accompanies each Descriptor in the main Alphabetical Display. Add Dates are assigned programmatically at the time a term enters the *Thesaurus* file. The earliest "real" Add Date is AUG68. Month and year of entry are given for each Descriptor added from AUG68 to the present. All Descriptors entered earlier than AUG68 have been given the arbitrary Add Date of JUL66, the approximate point in time at which ERIC indexing began.

Add Dates are intended to help users in the preparation of search strategies. They represent calendar dates, not RIE or CIJE issue dates. Rigid interpretation of Add Dates should be avoided. A given addition may not show up in RIE or CIJE for up to 6 months after its Add Date. Also, because of backfile corrections, Descriptors may sometimes be seen on accessions that are earlier than the Add Dates of these same Descriptors. Additionally, postings of Descriptors carrying JUL66 may not actually go back that far in time, or may be earlier if applied to one of the original, pre-RIE historical collections (Disadvantaged, OE Research Reports 1956-65, etc.).

(6)   **Postings Counts**

As an additional aid to users, the Alphabetical Display provides a Postings Count for each Descriptor. This notation indicates the number of times the term has been used as either a major or minor Descriptor in ERIC indexing. It appears on the second line of the Descriptor display and above the Scope Note. In the Working Copy, it is to the right of the Add Date and within parentheses, and shows total ERIC postings for the term at the time the particular issue was produced. In the published *Thesaurus*, separate

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postings counts are given for CIJE and RIE.

Examination of the postings for a Descriptor may lead the user to check the term's cross-references. For example, a term with 3,000 postings cannot be searched easily manually, but one or more of its Narrower Terms (NTs) might well be. On the other hand, a term with only 15 postings might suggest that the searcher also consider including the term's Related Terms (RTs) or even its Broader Terms (BTs) in the search strategy.

All terms in the *Thesaurus* have actually been used in indexing. Any terms showing zero postings were in the process of being re-posted as that particular *Thesaurus* edition went to press, and will show their true postings in subsequent issues.

(7)   **Scope Notes**

Descriptor Scope Notes (SNs) give definitions and/or usage restrictions, and often provide special instructions for indexers and searchers. For a complete discussion of Scope Notes (their roles, how they are developed, how to interpret them, etc.), see item D.4 of this section.

(8)   **Cross-References**

At least one of the following types of cross-references accompanies every Descriptor in the *Thesaurus'* Alphabetical Display. See items as indicated (in this section) for complete details about each type.

- UF (Used For)/USE References----item D.5.
- Narrower Terms/Broader Terms----item D.6.
- Related Terms----item D.7.

(9)   *Thesaurus* **Displays**

In addition to the main Alphabetical Display, three additional displays of the *Thesaurus* are provided to assist in indexing and searching. These are the Rotated Display, Hierarchical Display, and Descriptor Group Display. See this section's item B.7 for a discussion of each.

e.   **Former Main Terms**

Former indexable Descriptors are identified in the *Thesaurus* by parenthetical "life span" notations, e.g., "(1982 1990)." These notations show the period of time in which the terms were used in indexing.

These terms fall into categories "(1)" and "(2)" below. A third category "(3)" no longer appears in the *Thesaurus*.

(1)   **"Transferred" Descriptors**

These are former main terms that have been downgraded to the status of USE references, e.g.,

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Personal Relationship (1966 1974)
    Use INTERPERSONAL RELATIONSHIP

Physics Teachers (1967 1980)
    Use PHYSICS
    and SCIENCE TEACHERS

These notations indicate that the postings of the first term in each set were "transferred" to the other term(s), i.e., the terms were merged in order to facilitate retrieval. The reason for merging the first set was to consolidate the postings of two synonyms under a single preferred form. The reason for merging the second set was to eliminate a term that had been used infrequently (and somewhat inconsistently).

Reasons for transferring or merging Descriptors, other than the need to collapse synonyms (or near-synonyms) and low-posted terms, include replacement of obsolete, ambiguous, or incorrect terminology. All transactions of this nature are made only to facilitate retrieval, a fact that must be demonstrated before such changes are approved.

Parenthetical life span notations inform users of older manual indexes and computer files that they must use these former terms to achieve complete retrieval. The major database vendors at times have updated their ERIC files to reflect postings "transfers," and users of these services in most instances need only to search currently active Descriptors to obtain records posted originally by the transferred terms. Postings transfers of approximately 840 Descriptors before December 1980 (when the last complete reload of ERIC by all major vendors occurred) are reflected in the ERIC database, and these Descriptors no longer need to be considered in online or other computer searching. Transfers after December 1980, however, have not been fully implemented in the ERIC vendor files, and both old and new versions of a term must be used in retrospective searching. All "transferred" ERIC Descriptors that are still searchable are listed in commercially published editions of the ERIC *Thesaurus* (see "Transferred Descriptors" in the Table of Contents).

(See also "Transferred Descriptors" discussion under "UF (Used For)/USE References," item D.5 of this section.)

(2)   Invalid "Dead" Descriptors

Occasionally, Descriptors have appeared in the *Thesaurus* file that, because of inherent ambiguity or subsequent indexing practices, are used so inconsistently that their utility in retrieval is seriously diminished. Such Descriptors, when discovered, are converted to invalid or "dead" terms.

Invalid Descriptors have the same display format as active Descriptors except for having no cross-references (no UFs, NTs, BTs, RTs). More important, however, are two additional identifying characteristics: a "life span" notation indicating the span of time the term was actually in use, and a Scope Note indicating how the term was used and leading indexers and searchers to more precise or meaningful terminology.

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Example: SPATIAL RELATIONSHIP (1966 1980)   920
         Mar80   (254)
         SN Invalid Descriptor—Used for both the spatial relationship
             among areas of a facility and the spatial orientation of
             individuals—See the Descriptors "Spatial Relationship
             (Facilities)," "Spatial Ability," and "Personal Space" for
             these concepts

Invalid Descriptors have the same main-entry form as Descriptors that have been downgraded to UF status; however, there is a significant difference between the two. Former Descriptors shown in the *Thesaurus* as UFs have been, or are in the process of being, deleted from the ERIC computer files, i.e., their postings have been (or will be) "transferred" to the preferred USE term(s). (For the present status of these terms, see the "Transferred Descriptors" section of the published ERIC *Thesaurus*.) On the other hand, invalid Descriptors remain in the ERIC files, and a comprehensive computer search of subjects represented by invalid Descriptors would necessitate their inclusion in one's search strategy. (For a complete list of invalid Descriptors, see the "Invalid ('Dead') Descriptors" section of the published ERIC *Thesaurus*.)

A major objective of the ERIC system is the maintenance of synchronous authority and index (postings) ʰʸes. Most former main terms can be automatically reposted to one or more active Descriptors. Invalid Descriptors, however, cannot be handled in this manner. The inconsistency of their postings makes invalid Descriptors what they are. "Dead term" status effectively puts a hold on a concept, preventing its further use in indexing and allowing it to be set aside for possible manual reindexing (i.e., individual examination and reindexing of original records) at a later date. As time and funds permit, invalid Descriptors are reposted to preferred, active terms.

(See also discussion on "Ambiguous Usage" under "Scope Notes," item D.4 of this section.)

(3)   Deleted Descriptors

This third category of former main terms refers to concepts that have been totally removed from the *Thesaurus* file. The total number of terms in this group is quite small as compared to the other two categories, comprising no more than 30 Descriptors since ERIC became fully operational in 1966. These terms may be characterized by one of the following descriptions:

● Little-used ambiguous terms that encompass no appreciable subject content, e.g., ADVANCED SYSTEMS, LIMITED EXPERIENCE.

(These have been purged from the ERIC database and are no longer searchable; they may, however, be seen in older printed indexes.)

● Little-used highly specific terms whose existence cannot be justified because there is little or no data in ERIC on the subjects they represent,

e.g., BIRACIAL GOVERNMENT, CABINET TYPE PROJECTORS.

(Like the first type, these also have been purged and are no longer searchable.)

● Highly specific proper nouns or coined terminology that more appropriately should be posted in the Identifier field, e.g., CHAUTAUQUAS.

(Though no longer in the *Thesaurus*, such terms are legitimate Identifiers and may be searched—see "Identifiers," Section VIII (Part 2).)

3.   **Descriptor Groups**

The ERIC *Thesaurus*, like many other information retrieval thesauri (particularly those that cover fields as broad as "education"), incorporates a system of broad subject categories into which all Descriptors are grouped. These "Descriptor Groups" essentially represent a "table of contents" to the *Thesaurus* and provide an overview of the subject coverage of the ERIC system. Descriptor Groups provide easy initial access to the *Thesaurus* and are particularly useful to new or infrequent ERIC indexers and searchers who need to quickly obtain a basic familiarity with the total ERIC vocabulary. Descriptor Groups can also be helpful to the more experienced user in providing a means of narrowing down the total number of terms to be looked at, whether the task is indexing, searching, or lexicographic analysis.

The current ERIC Descriptor Groups are listed in **Figure VIII-1-7**; each group is identified by a unique 3-digit code.

This set of 41 Descriptor Groups was developed during the 1977-80 Vocabulary Improvement Project and first appeared in the 8th published edition of the *Thesaurus* (Completely Revised, 1980). A previous set of 52 groups (developed in the late 1960s) appeared in earlier published *Thesaurus* editions. There was much overlap between the earlier groups and the *Thesaurus* hierarchies. One of the purposes of the revision was to eliminate, as much as possible, this unnecessary hierarchical reiteration.

The Descriptor Group section of the published *Thesaurus* includes a Scope Note for each group, indicating subject coverage and including cross-references to other closely related groups. This is followed by a "Descriptor Group Display" in which the terms are listed alphabetically within each group.

The Descriptor Groups are represented by the series of 3-digit codes shown in **Figure VIII-1-7**. Each *Thesaurus* Descriptor has one of these codes in its record. The Alphabetical Display carries this code and serves as an index or key to the groups.

5 5

Groups Related to LEARNING AND DEVELOPMENT

110　LEARNING AND PERCEPTION
120　INDIVIDUAL DEVELOPMENT AND CHARACTERISTICS

Groups Related to PHYSICAL AND MENTAL CONDITIONS

210　HEALTH AND SAFETY
220　DISABILITIES
230　MENTAL HEALTH
240　COUNSELING

Groups Related to EDUCATIONAL PROCESSES AND STRUCTURES

310　THE EDUCATIONAL PROCESS: CLASSROOM PERSPECTIVES
320　THE EDUCATIONAL PROCESS: SCHOOL PERSPECTIVES
330　THE EDUCATIONAL PROCESS: SOCIETAL PERSPECTIVES
340　EDUCATIONAL LEVELS, DEGREES, AND ORGANIZATIONS
350　CURRICULUM ORGANIZATION
360　STUDENTS, TEACHERS, SCHOOL PERSONNEL

Groups Related to CURRICULUM AREAS

400　SUBJECTS OF INSTRUCTION
410　AGRICULTURE AND NATURAL RESOURCES
420　ARTS
430　HUMANITIES
440　LANGUAGES
450　LANGUAGE AND SPEECH
460　READING
470　PHYSICAL EDUCATION AND RECREATION
480　MATHEMATICS
490　SCIENCE AND TECHNOLOGY

Groups Related to HUMAN SOCIETY

510　THE INDIVIDUAL IN SOCIAL CONTEXT
520　SOCIAL PROCESSES AND STRUCTURES
530　SOCIAL PROBLEMS
540　BIAS AND EQUITY
550　HUMAN GEOGRAPHY
560　PEOPLES AND CULTURES

Groups Related to SOCIAL/ECONOMIC ENTERPRISE

610　GOVERNMENT AND POLITICS
620　ECONOMICS AND FINANCE
630　LABOR AND EMPLOYMENT
640　OCCUPATIONS
650　BUSINESS, COMMERCE, AND INDUSTRY

Groups Related to INFORMATION AND COMMUNICATIONS

710　INFORMATION/COMMUNICATIONS SYSTEMS
720　COMMUNICATIONS MEDIA
730　PUBLICATION/DOCUMENT TYPES

Groups Related to MEASUREMENT AND RESEARCH

810　RESEARCH AND THEORY
820　MEASUREMENT
830　TESTS AND SCALES

Groups Related to FACILITIES AND EQUIPMENT

910　EQUIPMENT
920　FACILITIES

FIGURE VIII-1-7:　DESCRIPTOR GROUPS

Example:

<pre>
        Alphabetical Display   Descriptor Group Display

     ADULT LEARNING   110   110
        JUL66   (1,822)   LEARNING AND PERCEPTION
        BT Learning
        RT Adult Development   Ability Identification
            Adult Education   Abstract Reasoning
            Adult Programs   Adult Learning
            Adult Students   Arousal Patterns
            Adults   Associative Learning
            Andragogy   Attention
            Lifelong Learning   Attention Control
                                       Audience Response
                                       Auditory Discrimination
                                       Auditory Perception
                                       Auditory Stimuli
                                       Aural Learning
</pre>

The Descriptor Groups have had many roles in the past. At one time. the journal article citations in CIJE were arranged by Descriptor Groups. Several users have reported the utility of the groups in organizing various files, cataloging systems, awareness profiles, etc. Also, for a time, one of the online database vendors included Group Codes as an ERIC search option, allowing retrieval of all documents posted by a group's terms or subsets of those terms, and coordination of an entire group with single *Thesaurus* terms.

While sometimes helpful in the refinement of computer searches, Descriptor Groups are basically a tool for manual browsing, and users should be cautioned not to construe them as a formal classification scheme. Document indexing and search request formulation should never be based on Descriptor Groups alone. Before accurate decisions can be made on the use of individual Descriptors, they must be seen in the context of their hierarchies (the Hierarchical Display is a classified arrangement) and of the main Alphabetical Display with its Scope Notes and cross-references.

Individual Descriptors may often be conceptually broader than their group assignments might imply. For example, terms that have been scoped to include subject matter both within and outside of the education field may be found in "Groups Related to Educational Processes and Structures." Such group assignments are based on the way the terms are most frequently used in ERIC indexing.

Each term in the *Thesaurus*, excluding UFs, is assigned to one Descriptor Group and to only one. However, many terms would admittedly appear to warrant assignment to more than one group. This situation is generally most apparent among closely related, conceptually overlapping Descriptor Groups (the groups are not mutually exclusive). The problem is currently handled with "see" and "see also" cross-references in the Scope Notes of the Descriptor Groups. Multiple-group assignments, while a possibility, are not planned for the immediate future. Such a capability would probably be most helpful when using the Descriptor Groups for searching, but more evidence of the day-to-day operational utility of the groups for this purpose is required.

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The following guidelines are provided for selecting the one proper Descriptor Group for a given Descriptor:

- Group assignment should be made on the basis of the Descriptor's relationship to the entire field of education, rather than to a specialty (such as a particular Clearinghouse's subject area).

- Consult the Descriptor Group Display to determine:

    --- The assignment of similar, parallel, comparable, or analogous concepts.

    --- The assignment of terms that will be cross-referenced in the display of the Descriptor in question.

- Keep in mind that Descriptor Groups are adjuncts to other *Thesaurus* structures and displays. In evaluating whether a given term would be better in one group or another, consider its impact in each context. For instance, is CULTURE FAIR TESTS more illuminating or valuable to someone scanning the BIAS AND EQUITY group or the TESTS AND SCALES group? In this case, CULTURE FAIR TESTS is already displayed together with the other "test" terms in the Rotated Display, in the Hierarchical Display under TESTS, and in the main Alphabetical Display as a direct NT of TESTS. Assigning it to BIAS AND EQUITY provides a new view of this term.

- Use the guidance provided by the Descriptor Group Scope Notes. For instance, the Scope Note of the EQUIPMENT group says "see DISABILITIES for special equipment serving the handicapped," and one may find in this latter group such terms as HEARING AIDS and WHEELCHAIRS. The Scope Note of the OCCUPATIONS group specifically refers the user to a number of more precise groups, including HEALTH AND SAFETY, where terms such as NURSES and PHARMACISTS may be found.

Once the choice of the most appropriate Descriptor Group has been made for a given term, the 3-digit Group Code for that group is then entered along with the term and its display using the Vocabulary Development Form. (See **Figure VIII-1-8** of this section.)

4. **Scope Notes**

    a. **General**

        A Scope Note is a brief statement (370 character limit, including intervening blanks) of the intended usage of a Descriptor. It may be used to clarify an ambiguous term or to restrict the usage of a term.

        Scope Notes may include all alphabetical, numerical, and special characters within the limits of ERIC character availability, except for the semicolon (;). The semicolon is used in ERIC as a subfield delimiter.

        Scope Notes may be definitional, instructional, or both. As definitions, Scope Notes define terms for the purposes of their use in ERIC indexing. In a broader

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sense, definitional Scope Notes are, therefore, guides to what will be retrieved by searching on a Descriptor.

Instructional Scope Notes direct the user to other terms (Descriptors and/or Identifiers), indicate proper coordinations, provide historical notes on changes in usage or reference structure, or otherwise guide and explain preferred usage for both indexing and retrieval.

b.   Definitional Scope Notes

Definitional Scope Notes are used in the *Thesaurus* for the following categories of Descriptors:

● Fundamental concepts appearing both by themselves and as components of precoordinated Descriptors.

ABILITY

SN   THE DEGREE OF ACTUAL POWER PRESENT IN AN ORGANISM OR SYSTEM TO PERFORM A GIVEN PHYSICAL OR MENTAL ACT (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE)

CHANGE

SN   ACT OR PROCESS OF ALTERING, MODIFYING, TRANSFORMING, SUBSTITUTING, OR OTHERWISE MAKiNG OR BECOMING DIFFERENT -- INCLUDES DEVIATION FROM ESTABLISHED CHARACTER, CONDITION, SEQUENCE, OR DIRECTION (NOTE: DO NOT CONFUSE WITH "DEVELOPMENT," WHICH REFERS TO SEQUENTIAL, PROGRESSIVE CHANGES -- USE A MORE SPECIFIC TERM IF POSSIBLE)

● Homographs.

FREE SCHOOLS

SN   ALTERNATIVE SCHOOLS OFFERING A COMPLETELY VOLUNTARISTIC FRAMEWORK, INCLUDING AN UNSTRUCTURED CURRICULUM AND A SPONTANEOUS LEARNING ENVIRONMENT -- STUDENTS ARE FREE TO SELECT WHAT TO LEARN, WITH WHOM, WHEN, AND HOW -- GRADES, COMPETITION, AND COMPARISONS BETWEEN INDIVIDUALS ARE DISCARDED (NOTE: DO NOT CONFUSE WITH "FREE EDUCATION" OR "FREEDOM SCHOOLS")

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● Descriptors containing words that may be ambiguous in some contexts.

LANGUAGE HANDICAPS

SN RECEPTIVE OR EXPRESSIVE LANGUAGE
    DISABILITIES (NOTE: USE "LEARNING
    DISABILITIES" IF THE DISABILITY
    IS BEING CONSIDERED IN AN
    EDUCATIONAL SETTING -- USE
    "SPEECH HANDICAPS" FOR
    IMPAIRMENTS OF THE PERIPHERAL
    SPEECH MECHANISMS)

SATELLITE FACILITIES

SN SUBSIDIARY FACILITIES THAT MAY BE
    SOME DISTANCE FROM THE FACILITY
    OR INSTITUTION TO WHICH THEY ARE
    ADMINISTRATIVELY RELATED

● Descriptors that include words that experience with the "terminology terrain"
of education has shown are near-synonyms.

HUMAN RESOURCES

SN PEOPLE WHO CAN BE DRAWN UPON FOR
    THEIR KNOWLEDGE, SKILLS, OR
    PRODUCTIVE CAPACITIES (NOTE: DO
    NOT CONFUSE WITH "HUMAN CAPITAL")

INDIVIDUALIZED EDUCATION PROGRAMS

SN EDUCATIONAL PROGRAMS FOR
    INDIVIDUAL STUDENTS, EACH GEARED
    TO THE PARTICULAR STUDENT'S NEEDS
    AND CONDUCTED IN ACCORDANCE WITH
    A WRITTEN PLAN AGREED ON BETWEEN
    THE STUDENT (AND/OR PARENTS) AND
    SCHOOL OFFICIALS -- IEP'S WERE
    ORIGINALLY CONCEIVED FOR USE IN
    EDUCATING HANDICAPPED CHILDREN
    AND WERE GRADUALLY EXPANDED TO
    INCLUDE ALL SPECIAL NEEDS GROUPS

● Terms that have a specialized, uncommon meaning in ERIC usage.

LABORATORY TRAINING

SN METHOD OF TRAINING DESIGNED TO
    FACILITATE SELF INSIGHT, PROCESS
    AWARENESS, INTERPERSONAL
    COMPETENCE, AND DYNAMICS OF
    CHANGE

MAINSTREAMING

SN PROGRESSIVELY INCLUDING AND
    MAINTAINING EXCEPTIONAL STUDENTS
    (DISABLED OR GIFTED) IN CLASSES
    AND SCHOOLS WITH REGULAR OR
    NORMAL STUDENTS, WITH STEPS TAKEN
    TO SEE THAT SPECIAL NEEDS ARE
    SATISFIED WITHIN THIS ARRANGEMENT

● Terms generally not used in common discourse (even if commonly used in the
literature).

NEONATES

SN AGED BIRTH TO APPROXIMATELY 1
    MONTH (NOTE: ADDED MAR89 TO LIST
    OF AGE LEVELING DESCRIPTORS --
    PRIOR TO THAT, THIS CONCEPT WAS
    FREQUENTLY INDEXED BY "INFANTS")

SOCIOMETRIC TECHNIQUES

SN PROCEDURES USED TO IDENTIFY THE
    PREFERENCES, LIKES, OR DISLIKES
    OF THE MEMBERS OF A GROUP WITH
    RESPECT TO EACH OTHER, AS WELL AS
    TO IDENTIFY VARIOUS PATTERNS OF
    GROUP STRUCTURE OR INTERACTION

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● Technical terms (even if commonly known among the relevant subject experts).

GENERATIVE PHONOLOGY

SN THEORY OR SYSTEM OF RULES WHICH DESCRIBES OR PREDICTS WELL-FORMED PHONOLOGICAL OUTPUTS, AND IS USED TO EXPRESS THE ABILITY OF SPEAKERS TO PRODUCE THE SOUNDS OF THEIR NATIVE LANGUAGE

MISCUE ANALYSIS

SN EXAMINATION AND INTERPRETATION OF OBSERVED RESPONSES IN ORAL READING WHICH DO NOT MATCH EXPECTED RESPONSES, AS A TECHNIQUE FOR MEASURING THE LEARNER'S CONTROL OF THE READING PROCESS

● Terms requiring historical notes, instructions for coordination with or reference to other Descriptors or Identifiers, or otherwise requiring explanation of usage.

ACCESSIBILITY (FOR DISABLED)

SN CHARACTERISTICS OF FACILITIES, PROGRAMS, AND SERVICES THAT ALLOW THEM TO BE ENTERED OR USED BY INDIVIDUALS DESPITE VISUAL, HEARING, MOBILITY, OR OTHER IMPAIRMENTS (NOTE: FOR PHYSICAL ACCESS, COORDINATE WITH "PHYSICAL MOBILITY" OR "VISUALLY HANDICAPPED MOBILITY" -- PRIOR TO JUN80, SEE ALSO "ARCHITECTURAL BARRIERS")

FUND RAISING

SN IDENTIFYING, SOLICITING, ACQUIRING, AND CULTIVATING FINANCIAL RESOURCES (NOTE: PRIOR TO FEB78, THE INSTRUCTION "FUND RAISING, USE FINANCIAL SUPPORT" WAS CARRIED IN THE THESAURUS)

RELATIONSHIP

SN TYPE OR MODE OF ASSOCIATION BETWEEN OR AMONG PHYSICALLY EXISTING ENTITIES, E.G., PEOPLE, INSTITUTIONS, OBJECTS (NOTE: USE A MORE SPECIFIC TERM IF POSSIBLE -- DO NOT CONFUSE WITH "CORRELATION" -- PRIOR TO MAR80, THE USE OF THIS TERM WAS NOT RESTRICTED BY A SCOPE NOTE)

SOCIAL WELFARE (1966 1980)

SN INVALID DESCRIPTOR -- USED FOR WELL-BEING AND VARIOUS TYPES OF SOCIAL SERVICES -- USE "WELL BEING" FOR FORMER CONCEPT, "WELFARE SERVICES" FOR ORGANIZED ASSISTANCE TO THE DISADVANTAGED, AND "SOCIAL SERVICES" OR OTHER APPROPRIATE TERMS FOR SOCIAL SERVICES PROVIDED TO THE GENERAL POPULATION

c. **Instructional Scope Notes**

Instructional Scope Notes are best illustrated by providing a series of examples of their major types.

(1) **"USE ANOTHER TERM..."**

CAREER OPPORTUNITIES (1966 1980)

SN INVALID DESCRIPTOR -- USED INCONSISTENTLY IN INDEXING -- USE "CAREERS," AND, IF APPROPRIATE, "EMPLOYMENT OPPORTUNITIES"

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EDUCATIONAL FINANCE

> SN   ANY ASPECT OF RAISING AND
>   SPENDING REVENUE FOR
>   EDUCATIONAL PURPOSES (NOTE:
>   USE A MORE PRECISE TERM IF
>   POSSIBLE)

(the phrase "use a more precise term if possible" is used when advising the indexer to use a less general term even though no specific Narrower Terms are cited)

ORAL READING

> SN   THE ACT OF READING ALOUD, OFTEN USED
>   TO DEVELOP OR TEST READING SKILLS
>   (NOTE: USE "READING ALOUD TO OTHERS"
>   WHEN THE PURPOSE OF ORAL READING IS TO
>   INFORM OR ENTERTAIN A LISTENER OR
>   GROUP OF LISTENERS)

PROBLEMS

> SN   DIFFICULTIES OR OBSTACLES
>   NOT EASILY OVERCOME (NOTE:
>   USE A MORE SPECIFIC TERM IF
>   POSSIBLE)

(the phrase "use a more specific term if possible" is used when advising use of a Narrower Term)

SATELLITES (AEROSPACE)

> SN   (NOTE: IF APPLICABLE, USE THE
>   MORE SPECIFIC TERM
>   "COMMUNICATIONS SATELLITES")

(i.e., don't overlook the one Narrower Term that's available)

(2)   "SEE..., SEE ALSO..., FOR...SEE"

INTERNATIONAL STUDIES

> SN   MULTIDISCIPLINARY FIELD OF
>   INQUIRY CONCERNED WITH ANALYZING
>   SOCIAL PHENOMENA THAT OCCUR
>   WITHIN, BETWEEN, AND
>   TRANSCENDING NATIONALLY
>   ORGANIZED POLITICS -- COMMONLY
>   IDENTIFIED SUBFIELDS ARE
>   "INTERNATIONAL POLITICS,"
>   "FOREIGN POLICY," "INTERNATIONAL
>   LAW," "INTERNATIONAL
>   ORGANIZATION," "INTERNATIONAL
>   ECONOMICS," AND "COMPARATIVE
>   AREA STUDIES"

(reference is made to other subject areas without citing specific Descriptors)

INVENTIONS

> SN   ORIGINAL PRODUCTS OR PROCESSES
>   (THINGS NOT PREVIOUSLY EXISTING)
>   DEVELOPED BY CREATIVE THOUGHT OR
>   EXPERIMENTATION -- (NOTE: FOR
>   "DISCOVERIES," SEE THE
>   DESCRIPTOR "DISCOVERY
>   PROCESSES")

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PHARMACY

SN   THE ART OR PRACTICE OF PREPARING, PRESERVING, COMPOUNDING, AND DISPENSING DRUGS (NOTE: SEE ALSO "PHARMACOLOGY")

PRESSURE (1970 1980)

SN   INVALID DESCRIPTOR -- ORIGINALLY INTENDED AS A PHYSICAL SCIENCE TERM BUT USED INCONSISTENTLY FOR SOCIAL PRESSURE, PSYCHOLOGICAL STRESS, ETC., AS WELL AS PHYSICAL PRESSURE -- SEE SUCH DESCRIPTORS AS "PRESSURE (PHYSICS)," "POLITICAL INFLUENCES," "SOCIAL INFLUENCES," AND "STRESS VARIABLES"

UNCOMMONLY TAUGHT LANGUAGES

SN   LANGUAGES NOT GENERALLY OFFERED FOR INSTRUCTION IN THE UNITED STATES EDUCATIONAL SYSTEM (NOTE: ALSO SEE THE SPECIFIC LANGUAGE, E.G., TURKISH, OR THE LANGUAGE FAMILY, E.G., URALIC ALTAIC LANGUAGES)

(3)   "SEE ALSO...[IDENTIFIER]"

EQUIVALENCY TESTS

SN   TESTS TO MEASURE THE EXTENT TO WHICH PREVIOUS SCHOOLING, KNOWLEDGE, OR EXPERIENCE SATISFIES COURSE OR JOB REQUIREMENTS (NOTE: SEE ALSO THE IDENTIFIER "GENERAL EDUCATIONAL DEVELOPMENT TESTS" -- PRIOR TO SEP77 AND MAR80 RESPECTIVELY, THE INSTRUCTIONS "GED TESTS, USE EQUIVALENCY TESTS" AND "PROFICIENCY EXAMINATIONS, USE EQUIVALENCY TESTS" WERE CARRIED IN THE THESAURUS)

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(4)   "COORDINATE WITH..., COORDINATE OTHER TERMS..., USE
        WITH..., COORDINATE WITH [IDENTIFIERS]"

FOREIGN CULTURE

SN   CULTURE REGARDED AS FOREIGN FROM
     THE PERSPECTIVE OF THE DOCUMENT
     OR JOURNAL ARTICLE (NOTE: USE
     MAJOR GEOGRAPHIC IDENTIFIERS TO
     IDENTIFY THE FOREIGN CULTURE,
     AND MINOR GEOGRAPHIC IDENTIFIERS
     TO IDENTIFY THE NATIVE CULTURE
     -- PRIOR TO MAR80, THIS TERM WAS
     NOT RESTRICTED BY A SCOPE NOTE
     AND CARRIED NO SPECIAL
     INSTRUCTION)

HEARINGS

SN   SESSIONS IN WHICH WITNESSES ARE
     HEARD AND TESTIMONY IS RECORDED
     (NOTE: FOR U.S. CONGRESSIONAL
     HEARINGS, COORDINATE "HEARINGS"
     WITH SUCH IDENTIFIERS AS
     "CONGRESS," "CONGRESS 95th,"
     ETC.)

LANGUAGE TESTS

SN   TESTS TO MEASURE PROFICIENCY,
     DIAGNOSE STRENGTHS AND
     WEAKNESSES, OR PREDICT FUTURE
     PERFORMANCE IN A NATIVE OR
     FOREIGN LANGUAGE (NOTE: FOR
     FOREIGN LANGUAGE TESTS,
     COORDINATE THIS TERM WITH
     "SECOND LANGUAGE LEARNING," AND,
     WHEN APPROPRIATE, THE LANGUAGE)

MEDICAL RECORD ADMINISTRATORS

SN   INDIVIDUALS WHO PLAN, DEVELOP,
     AND ADMINISTER MEDICAL RECORD
     SYSTEMS FOR HOSPITALS, CLINICS,
     HEALTH CENTERS, ETC. (NOTE: FOR
     LIBRARIANS IN MEDICAL LIBRARIES,
     COORDINATE "LIBRARIANS" AND
     "MEDICAL LIBRARIES" -- FOR
     LIBRARIANS WHO ARE DIRECTLY
     INVOLVED IN PATIENT CARE, USE
     THE IDENTIFIER "CLINICAL MEDICAL
     LIBRARIANS")

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(5)   "USE FOR..."

SEX FAIRNESS

SN   THE CORRECTION OF SEX BIAS OR
     DISCRIMINATION (NOTE: USE FOR
     DESCRIPTIONS OF MATERIALS,
     PROCEDURES, ACTIVITIES, OR
     PROGRAMS THAT TREAT THE SEXES
     EQUITABLY)

(6)   "DO NOT USE FOR..."

READING DIFFICULTIES

SN   PROBLEMS IN READING, CAUSED
     EITHER BY DISABILITIES
     ASSOCIATED WITH PSYCHOLOGICAL
     PROCESSES OR BY SUCH FACTORS AS
     PHYSICAL OR SENSORY HANDICAPS,
     CULTURAL BACKGROUND, LOW
     ABILITY, ETC. (NOTE: DO NOT USE
     FOR "READABILITY" -- THE
     PREVIOUS TERM "READING
     DIFFICULTY" WAS NOT SCOPED AND
     WAS OFTEN CONFUSED WITH
     "READABILITY")

(7)   "DO NOT CONFUSE WITH..."

PROGRAM DEVELOPMENT

SN   PROCESS OF FORMULATING A SCHEME,
     DEVISING PROCEDURES, OR PLANNING
     ACTIVITIES WITH REGARD TO
     SPECIFIC PROGRAM OBJECTIVES
     (NOTE: DO NOT CONFUSE WITH
     "PROGRAM DESIGN" OR "PROGRAM
     IMPLEMENTATION" -- PRIOR TO
     MAR80, THE USE OF THIS TERM WAS
     NOT RESTRICTED BY A SCOPE NOTE)

(8)   "SEE.../USE..." Other Sections of the *Thesaurus*

CATALOGS

SN   (NOTE: USE A MORE SPECIFIC TERM   (refers to Hierarchical
     IF POSSIBLE -- SEE ALSO   Display)
     "REFERENCE MATERIALS" HIERARCHY
     FOR MORE PRECISE TERMINOLOGY)

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TEACHERS

SN   (NOTE: SEE "FACULTY" FOR OTHER
  SPECIFIC TERMINOLOGY RELATED TO
  "TEACHERS")

(refers to another term and
all its cross-references in
the Alphabetical Display)

UNIVERSITIES

SN   DEGREE-GRANTING INSTITUTIONS OF
  HIGHER EDUCATION THAT TYPICALLY
  INCLUDE A LIBERAL ARTS
  UNDERGRADUATE COLLEGE, A
  GRADUATE SCHOOL, AND TWO OR MORE
  UNDERGRADUATE AND GRADUATE
  PROFESSIONAL SCHOOLS (NOTE: FOR
  SPECIFIC ASPECTS, USE A
  "COLLEGE" TERM WHERE A
  CORRESPONDING "UNIVERSITY" TERM
  IS NOT AVAILABLE)

(refers to the entire
range of terms having
the same word—thus, the
Rotated Display)

d.   **Historical Notes**

(1)   **Previous UF Established as Main Term**

DAY CARE CENTERS

SN   PROFESSIONALLY RUN FACILITIES
  THAT CARE FOR GROUPS OF CHILDREN
  ON A PARTIAL OR FULL DAY BASIS
  (NOTE: PRIOR TO MAR80, THE
  INSTRUCTION "DAY CARE CENTERS,
  USE DAY CARE SERVICES" WAS
  CARRIED IN THE THESAURUS)

REDUCTION IN FORCE

SN   REDUCTION IN THE TOTAL NUMBER OF
  PEOPLE EMPLOYED BY AN
  ORGANIZATION -- INCLUDES SUCH
  METHODS AS LAYING OFF PERSONNEL,
  CREATING EARLY RETIREMENT
  OPTIONS, TRANSFERRING PERSONNEL,
  AND NOT FILLING OPENINGS CREATED
  THROUGH NORMAL STAFF ATTRITION
  (NOTE: PRIOR TO MAR77, THE
  INSTRUCTION "REDUCTION IN
  FORCE," USE "JOB LAYOFF" WAS
  CARRIED IN THE THESAURUS)

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(2)   **Another Descriptor Used Previously for This Concept**

COLLEGE SECOND LANGUAGE PROGRAMS

SN   (NOTE: PRIOR TO MAR80, THIS
       CONCEPT WAS INDEXED UNDER
       "COLLEGE LANGUAGE PROGRAMS")

SCHOOL CATALOGS

SN   PUBLICATIONS ISSUED BY SCHOOLS
       TO PROVIDE INFORMATION ON THEIR
       COURSES, FACULTY, FACILITIES,
       ETC. (NOTE: PRIOR TO MAR80,
       "CATALOGS" WAS USED TO INDEX
       THIS CONCEPT)

(3)   **Significant Change in Scope**

POSTSECONDARY EDUCATION

SN   ALL EDUCATION BEYOND THE
       SECONDARY LEVEL -- INCLUDES
       LEARNING ACTIVITIES AND
       EXPERIENCES BEYOND THE
       COMPULSORY SCHOOL ATTENDANCE AGE
       WITH THE EXCEPTION OF ADULT
       BASIC EDUCATION AND HIGH SCHOOL
       EQUIVALENCY PROGRAMS (NOTE:
       APPEARS IN THE LIST OF MANDATORY
       EDUCATIONAL LEVEL DESCRIPTORS --
       BEFORE APR75, RESTRICTED TO
       EDUCATION BEYOND GRADE 12 AND
       LESS THAN THE BACCALAUREATE
       LEVEL)

(4)   **Previous Usage Has Varied**
        (Useful for dealing with terms that have been
        used inconsistently)

FIELD EXPERIENCE PROGRAMS

SN   PRACTICAL EXPERIENTIAL LEARNING   (restricts term to one
       ACTIVITIES UNDER INSTITUTIONAL   meaning, gives date of
       OR ORGANIZATIONAL SPONSORSHIP,   restriction)
       USUALLY AWAY FROM THE CLASSROOM
       OR CAMPUS -- ASSOCIATED MOST
       OFTEN WITH GRADES 10-16, AND
       CHARACTERIZED AS LESS FORMAL AND
       CONCENTRATED THAN PROFESSIONAL
       INTERNSHIP PROGRAMS (NOTE:
       BEFORE JUN78, THE USE OF THIS
       TERM WAS NOT RESTRICTED BY A
       SCOPE NOTE)

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INEQUALITIES (1970 1980)

SN   INVALID DESCRIPTOR -- USED
INCONSISTENTLY IN INDEXING -- FOR
MATHEMATICAL INEQUALITIES, USE
"INEQUALITY (MATHEMATICS)" -- FOR
EDUCATIONAL INEQUALITIES, USE
"EQUAL EDUCATION" -- FOR SOCIAL
OR ECONOMIC INEQUALITIES, SEE
"DISADVANTAGED" OR DESCRIPTORS
RELATING TO SOCIAL, RACE, SEX, OR
ETHNIC BIAS OR DISCRIMINATION

(gives alternatives to an
ambiguous term that has been
made invalid)

PRODUCTIVE THINKING

SN   CREATIVE THINKING THAT RESULTS
IN SOMETHING NEW (NOTE: PRIOR TO
MAR80, THE USE OF THIS TERM WAS
NOT RESTRICTED BY A SCOPE NOTE)

SECURITY (PSYCHOLOGY)

SN   BEING OR FEELING FREE FROM RISK
OR UNCERTAINTY (NOTE: THE
DESCRIPTOR "SECURITY," WITHOUT
THE PARENTHETICAL QUALIFIER, WAS
USED FROM 1967 TO MAR78)

(refers to an invalid
"dead" term on which this
improved term is based)

TELECOURSES

SN   SEQUENCES OF LESSONS OFFERED OVER
TELEVISION FOR CREDIT OR AUDITING
PURPOSES (NOTE: FOR COURSES ON THE
SUBJECT OF TELEVISION, USE
"TELEVISION CURRICULUM" -- PRIOR
TO MAR80, THIS TERM DID NOT CARRY
A SCOPE NOTE)

(restricts term to one
meaning and indicates
appropriate term covering
alternative meaning)

UNITED STATES HISTORY

SN   (NOTE: PRIOR TO MAR80, "AMERICAN
HISTORY" WAS OCCASIONALLY USED
FOR THIS CONCEPT)

e.   **Notes Indicating a Range of Possible Applications or Subsumed Concepts**

"Includes," "Example," and "Excludes" Scope Notes are useful devices
for delineating the range of subject matter, characteristics, attributes,
conditions, properties, or settings, found among the usages of a Descriptor.

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(1) "INCLUDES..." Scope Notes

AMERICAN INDIANS

SN BOTH NORTH AND SOUTH AMERICAN
INDIANS

ANNUAL REPORTS

SN INCLUDES DATA ON PROGRESS,
FINANCE, MATERIAL, PERSONNEL,
INSTRUCTION, ETC.

ITEM RESPONSE THEORY

SN THE STUDY OF TEST AND ITEM SCORES
BASED ON ASSUMPTIONS CONCERNING
THE MATHEMATICAL RELATIONSHIP
BETWEEN ABILITIES (OR OTHER
HYPOTHESIZED TRAITS) AND ITEM
RESPONSES (NOTE: "ITEM RESPONSE
THEORY" INCLUDES BOTH THE "RASCH
MODEL" AND THE "BIRNBAUM MODELS" –
– SEE THOSE IDENTIFIERS)

(refers to specific
Identifiers that embody
the concept)

LANGUAGE MAINTENANCE

SN THE MAINTENANCE OF A GIVEN
LANGUAGE RATHER THAN ITS
DISPLACEMENT BY ANOTHER LANGUAGE
(INCLUDES MAINTAINING THE
LANGUAGES OF CULTURAL MINORITY
GROUPS THROUGH FAMILY PRACTICES,
RITUALS, CONCERTED EDUCATIONAL
ENDEAVORS WITH SOCIETY AT LARGE,
ETC.)

MECHANICS (PHYSICS)

SN THE SCIENCE THAT DEALS WITH THE
EFFECTS OF ENERGY AND FORCE ON
THE EQUILIBRIUM, DEFORMATION, OR
MOTION OF SOLID, LIQUID, AND
GASEOUS BODIES –– INCLUDES BOTH
CLASSICAL (NEWTONIAN) AND MODERN
(ATOMIC-LEVEL) MECHANICS

73

NONINSTRUCTIONAL STUDENT COSTS

SN   COSTS MET BY STUDENTS THAT ARE NOT INSTRUCTIONAL COSTS (TUITION, ETC.) BUT ARE NECESSARY IN THE PURSUIT OF AN EDUCATION -- INCLUDES ROOM AND BOARD, TRANSPORTATION EXPENSES, BOOK COSTS, PERSONAL EXPENSES, FOREGONE INCOME, ETC.

(distinguishes the term from its antonym)

PHYSICAL EXAMINATIONS

SN   MEDICAL INSPECTIONS OF INDIVIDUALS TO DETERMINE THEIR PHYSICAL CONDITION, INCLUDING THE DETECTION OF PRESENT OR POTENTIAL DYSFUNCTION

(2)   "Example" Scope Notes: "E.G.," "SUCH AS...," "AS IN..."

"Includes" and "Example" Scope Notes are similar in that they indicate scope by providing lists of subsumed concepts or by providing examples of possible applications.

ARTIFICIAL LANGUAGES

SN   LANGUAGES CREATED FOR INTERNATIONAL COMMUNICATION, E.G., ESPERANTO, INTERLINGUA, NOVIAL, VOLAPUK

ASIAN STUDIES

SN   STUDIES, USUALLY INTERDISCIPLINARY IN APPROACH, OF SUCH GEOGRAPHIC AREAS AS ASIATIC RUSSIA, ARMENIA, AZERBAIJAN, BANGLADESH, BHUTAN, CHINA, GEORGIA, KAZAKHSTAN, KIRGIZSTAN, INDIA, INDONESIA, JAPAN, KOREA, MALDIVES, MONGOLIA, NEPAL, PAKISTAN, THE PHILIPPINES, SRI LANKA, TAJIKISTAN, TURKMENISTAN, UZBEKISTAN, AND THE SOUTHEAST ASIAN SUBCONTINENT

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DEVELOPMENTAL STAGES

SN   NATURAL OR COMMON DIVISIONS OF
THE HUMAN DEVELOPMENTAL
PROCESS, CHARACTERIZED BY TYPES
OF BEHAVIOR (AS IN THE ORAL
STAGE), BY BIOLOGICAL
PROPERTIES OR MANIFESTATIONS
(AS IN THE EMBRYONIC STAGE), OR
BY MENTAL PROCESSES (AS IN
PIAGET'S "CONCRETE OPERATIONS"
STAGE)

NEW JOURNALISM

SN   REPORTING WHICH COMBINES
TRADITIONAL JOURNALISM
TECHNIQUES WITH SUCH DEVICES OF
FICTION WRITING AS: SCENE BY
SCENE RECONSTRUCTION OF
SETTINGS, RECORDING OF
DIALOGUE, USE OF THIRD PERSON
POINT-OF-VIEW, AND EXTENSIVE
RECORDING OF EXTERNAL
CHARACTERISTICS OF INDIVIDUAL
CHARACTERS -- EMPHASIS IS ON
CAPTURING THE "CONCRETE
REALITY" OR "IMMEDIACY" OF
CULTURAL PHENOMENA

ELIGIBILITY

SN   QUALIFYING FOR CERTAIN
BENEFITS OR SERVICES (E.G.,
STUDENT ELIGIBILITY FOR
FINANCIAL AID, INSTITUTIONAL
ELIGIBILITY FOR ACCREDITATION,
FAMILY ELIGIBILITY FOR WELFARE
ASSISTANCE, EMPLOYEE
ELIGIBILITY FOR RETIREMENT)

(3)   "Excludes" Scope Notes: "OTHER THAN...," "RATHER THAN...,"
"UNLIKE...," and "NOT"

Sometimes it is easier to define a scope by stating what is
excluded. This approach can both point to and distinguish from a
Descriptor representing the excluded concept.

ABSTRACT REASONING

SN   PROCESS OF REACHING CONCLUSIONS
THROUGH THE USE OF SYMBOLS OR
GENERALIZATIONS RATHER THAN ON
CONCRETE FACTUAL INFORMATION

INFORMAL ASSESSMENT

SN   APPRAISAL OF AN INDIVIDUAL'S OR
GROUP'S STATUS OR GROWTH BY
MEANS OTHER THAN STANDARDIZED
INSTRUMENTS

ANALOG COMPUTERS

SN   COMPUTERS THAT TRANSLATE
PHYSICAL CONDITIONS (FLOW,
TEMPERATURE, PRESSURE, ETC.)
INTO RELATED MECHANICAL OR
ELECTRICAL QUANTITIES (LENGTH,
VOLTAGE, CURRENT, ETC.) --
UNLIKE DIGITAL COMPUTERS, WHICH
COUNT DISCRETE QUANTITIES,
ANALOG COMPUTERS MEASURE
CONTINUOUS VARIABLES

LOW VISION AIDS

SN   LENSES OR DEVICES OTHER THAN
CONVENTIONAL EYEGLASSES USED TO
IMPROVE VISUAL FUNCTIONING IN
THE PARTIALLY SIGHTED

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MIDDLE MANAGEMENT

SN   THE INTERMEDIATE LEVEL OF
MANAGEMENT, EXCLUDING TOP-LEVEL
MANAGEMENT ON THE ONE HAND AND
FIRST-LEVEL SUPERVISION ON THE
OTHER

NONPROFIT ORGANIZATIONS

SN   ORGANIZATIONS NOT DESIGNED
PRIMARILY TO PAY DIVIDENDS ON
INVESTED CAPITAL (NOTE: PRIOR TO
DEC77, THE INSTRUCTION "NONPROFIT
ORGANIZATIONS, USE VOLUNTARY
AGENCIES" WAS CARRIED IN THE
THESAURUS)

TORTS

SN   PRIVATE OR CIVIL WRONGS, NOT
INCLUDING BREACH OF CONTRACT, FOR
WHICH PERPETRATORS MAY BE LEGALLY
PROSECUTED AND INJURED PARTIES
MAY BE COMPENSATED

f.   **Notes That Slant Meaning or Emphasis in Certain Directions (Without Precluding Other Possibilities)**

Words such as "usually" can be important hedges in Scope Notes, avoiding excessively tight definitions. "Usually" and "generally" can also be helpful when definitions supplied by authorities differ or where shifts in meaning have occurred over time.

These qualifiers can be viewed as a continuum from "not-quite-absolute" to "maybe"---

(1)   "ALMOST ALWAYS..."

IMMERSION PROGRAMS

SN   EDUCATIONAL PROGRAMS IN WHICH ALL
CURRICULUM MATERIALS ARE TAUGHT
IN A SECOND LANGUAGE, GENERALLY
AT THE ELEMENTARY LEVEL AND
ALMOST ALWAYS WITHIN THE CONTEXT
OF A FIRST LANGUAGE SCHOOL

(2)   "ESPECIALLY...," "PARTICULARLY..."

EDUCATIONAL MALPRACTICE

SN   WRONGFUL OR NEGLIGENT ACTS ON THE
PART OF TEACHERS OR SCHOOLS THAT
RESULT (OR MAY RESULT) IN STUDENT
DETRIMENTS, ESPECIALLY INCLUDING
THE FAILURE OF STUDENTS TO LEARN

PHARMACOLOGY

SN

THE SCIENCE OF THE NATURE AND
PROPERTIES OF DRUGS, PARTICULARLY
THEIR ACTIONS OR EFFECTS (NOTE:
SEE ALSO "PHARMACY")

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(3) "USUALLY..."

ENDOWMENT FUNDS

SN   CAPITAL SUMS SET ASIDE AS SOURCES
OF INCOME -- THE PRINCIPAL OF
EACH SUM IS USUALLY LEFT INTACT
AND INVESTED, WHILE THE INCOME
MAY BE EXPENDED

RETRENCHMENT

SN   REDUCTION OF COSTS OR EFFORTS,
USUALLY AS AN ECONOMIC NECESSITY

(4) "GENERALLY...," "NORMALLY..."

BUILDING SYSTEMS

SN   ASSEMBLIES OF BUILDING SUBSYSTEMS
AND COMPONENTS (STRUCTURAL AND
MECHANICAL), WITH INSTRUCTIONS
FOR PUTTING THEM TOGETHER --
NORMALLY THESE COMPONENTS ARE
MASS-PRODUCED AND USED FOR
SPECIFIC GENERIC PROJECTS IN
BUILDING CONSTRUCTION

CURRICULUM

SN   PLAN INCORPORATING A STRUCTURED
SERIES OF INTENDED LEARNING
OUTCOMES AND ASSOCIATED LEARNING
EXPERIENCES -- GENERALLY
ORGANIZED AS A RELATED
COMBINATION OR SERIES OF COURSES
(NOTE: USE A MORE SPECIFIC TERM
IF POSSIBLE)

LIFETIME SPORTS

SN   SPORTS WHERE PARTICIPATION CAN BE
CARRIED ON THROUGHOUT ONE'S
LIFETIME -- GENERALLY INCLUDES
(BUT IS NOT NECESSARILY LIMITED
TO) A VARIETY OF INDIVIDUAL AND
DUAL SPORTS FOR WHICH FACILITIES
ARE WIDELY AVAILABLE, AND BODY
CONTACT IS LIMITED OR UNNECESSARY

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(5)   "FREQUENTLY..."

CAREER EXPLORATION

SN   INVESTIGATING OCCUPATIONAL INTEREST
        AREAS OFTEN THROUGH REAL OR
        SIMULATED JOB EXPERIENCE --
        FREQUENTLY FOUND IN CAREER
        EDUCATION PROGRAMS FOR GRADES 6
        THROUGH 10

(6)   "OFTEN..."

CAREER AWARENESS

SN   APPRECIATION FOR AND UNDERSTANDING
        OF THE VARIETY OF TYPES OF CAREERS
        -- OFTEN REFERS TO THE INITIAL
        PHASE OF CAREER EDUCATION
        APPROPRIATE TO THE ELEMENTARY
        SCHOOL

HANDICRAFTS

SN   CREATIVE ACTIVITIES OF MAKING
        ARTICLES BY HAND, OFTEN WITH THE
        AID OF SIMPLE TOOLS OR MACHINES -
        - ALSO, THE HANDIWORKS RESULTING
        FROM SUCH ACTIVITIES

(7)   "SOMETIMES..."

ALTRUISM

SN   CONSIDERATION FOR THE WELFARE
        OF OTHERS, SOMETIMES IN
        ACCORDANCE WITH AN ETHICAL
        SYSTEM

COLLEGE GOVERNING COUNCILS

SN   ORGANIZATIONS OF FACULTY
        REPRESENTATIVES, SOMETIMES
        INCLUDING ADMINISTRATORS AND
        STUDENTS, THAT CONSIDER
        ADMINISTRATIVE, ACADEMIC, OR
        OPERATIONAL POLICIES OF THE
        INSTITUTION

LABOR EDUCATION

SN   EDUCATION AND TRAINING OF
        WORKERS OFTEN SPONSORED BY
        LABOR UNIONS AND SOMETIMES IN
        COOPERATION WITH EDUCATIONAL
        INSTITUTIONS

(8)   "PERHAPS..."

SELF SUPPORTING STUDENTS

SN   STUDENTS WHO ARE LEGALLY (OR
        PERHAPS FINANCIALLY) INDEPENDENT
        OF THEIR PARENTS OR FORMER
        GUARDIANS

(9)   "EMPHASES ON...," "ATTENTION ON..."

Special features or characteristics can be indicated in a number of ways---

● "WITH EMPHASIS...," "EMPHASIS IS ON..."

COMMUNICATIVE COMPETENCE
(LANGUAGES)

ORIENTEERING

SN   THE ABILITY TO CONVERSE OR
CORRESPOND WITH A NATIVE
SPEAKER OF THE TARGET
LANGUAGE IN A REAL-LIFE
SITUATION, WITH EMPHASIS ON
COMMUNICATION OF IDEAS
RATHER THAN ON CORRECTNESS
OF LANGUAGE FORM

SN   THE ACT OR SPORT OF
CROSS-COUNTRY NAVIGATION
USING A MAP AND COMPASS AS
GUIDES -- EMPHASIS IS ON
DETERMINING, THEN TAKING,
THE SHORTEST AND QUICKEST
WAY TO A SPECIFIED
DESTINATION

● "WITH ATTENTION TO...," "ATTENTION IS GIVEN TO..."

ANTHROPOLOGICAL LINGUISTICS

SN   APPLICATION OF ANTHROPOLOGICAL
AND LINGUISTIC TECHNIQUES TO
THE STUDY OF SPEECH
COMMUNITIES, PARTICULARLY THOSE
WITH NO WRITING SYSTEM --
ATTENTION IS GIVEN TO SPECIFIC
INTERRELATIONSHIPS IN THE
CONCURRENT AND SYSTEMATIC
DEVELOPMENT OF CULTURE AND
LANGUAGE

● "ASSOCIATED WITH..."

g.   Special Problems in Meaning and Usage Treated by Scope Notes

(1)   Relational Homographs

"Relational homographs" are those terms whose meaning changes according to the direction of the relationship between the component concepts. Such terms should always be scoped. Whether they should be scoped to exclude one meaning or to include both will depend upon their usage.

Generally, if a relational homograph has been used primarily in only one sense, it should be scoped to exclude the other meaning. It should always be scoped to exclude the other meaning when other Descriptors exist to cover that other meaning. Examples:

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COUNSELOR EVALUATION

SN   PROCESS OF JUDGING COUNSELOR
     PERFORMANCE AS RELATED TO
     ESTABLISHED CRITERIA

TEACHER DISCIPLINE

SN   DISCIPLINE OF, NOT BY, TEACHERS

EMPLOYEE ATTITUDES

SN   ATTITUDES OF, NOT TOWARD,
     EMPLOYEES

TEACHER GUIDANCE

SN   GUIDANCE PROVIDED BY TEACHERS
     (NOTE: PRIOR TO MAR80, THIS
     TERM WAS NOT SCOPED AND WAS
     SOMETIMES USED TO INDEX
     GUIDANCE GIVEN TO TEACHERS)

PRIVATE FINANCIAL SUPPORT

SN   FINANCIAL AID RECEIVED FROM
     PRIVATE SOURCES (NOTE: DO NOT
     CONFUSE WITH "PRIVATE SCHOOL
     AID")

Only occasionally should a relational homograph be scoped to include *both* meanings, e.g.,

PUBLIC TELEVISION

SN   NON-COMMERCIAL TELEVISION,
     PUBLICLY OWNED AND OPERATED,
     THAT IS DEDICATED TO
     EDUCATIONAL, CULTURAL, AND
     PUBLIC-SERVICE PROGRAMS

(both by and for the public)

(2)   "Double" Scope Notes

Many concepts have two (or more) meanings or uses that are so closely related that they must be considered synonymous from the point of view of retrieval. ADJUSTMENT, for example, is both a condition and a process and is scoped as such. Most of the time such usage can be easily handled in the initial clause of a Scope Note; the *Thesaurus* provides many examples---

"BEING OR FEELING..."
"THE STATE OR QUALITY OF..."
"TRAITS OR QUALITIES..."
"THE ACT OR SPORT OF..."
"THE CONDITION AND PROCESS OF..."

In some cases, however, it is helpful to make the dual role of such concepts more obvious or explicit. This can be done through a "double" (or multiple) Scope Note. The Scope Note for DESIGN illustrates this by including the meaning of the term both as a noun and as a verb:

DESIGN

SN   THE PROCESS OF CONCEIVING AND
     SELECTING THE STRUCTURE,
     ELEMENTS, ARRANGEMENT, MATERIALS,
     STEPS, OR PROCEDURES OF SOME
     ACTIVITY OR THING -- ALSO, THE
     PLAN, LAYOUT, OR MENTAL SCHEME
     THAT RESULTS (NOTE: USE A MORE
     SPECIFIC TERM IF POSSIBLE)

Other "double" Scope Notes show meanings that while separable are so conceptually intertwined that there would be little or no advantage to trying to tease them apart, e.g.,

FISCAL CAPACITY

SN   WEALTH OF A GOVERNMENT,
     INSTITUTION, ORGANIZATION, OR
     INDIVIDUAL -- ALSO, THE
     RELATIVE ABILITY TO OBTAIN
     REVENUE

SOCIAL COGNITION

SN   CONCEPTIONS ABOUT INTERPERSONAL
     AND SOCIAL PHENOMENA (E.G.,
     PERSONS, THE SELF, MOTIVES,
     FEELINGS, RELATIONS, SOCIAL
     RULES, SOCIETAL INSTITUTIONS) --
     ALSO, COGNITIVE PROCESSES AND
     SKILLS USED IN SOCIAL INTERACTION
     (E.G.. COMMUNICATION SKILLS,
     PERSPECTIVE TAKING, EMPATHY)

A frequent need for double Scope Notes is found in the Descriptors representing the various intellectual disciplines, which in ERIC are also curriculum areas:

INTERNATIONAL RELATIONS

SN   RELATIONS AMONG POLITICAL UNITS OF
     NATIONAL RANK -- ALSO, A FIELD OF
     STUDY (OFTEN CONSIDERED AS A BRANCH
     OF POLITICAL SCIENCE) DEALING
     PRIMARILY WITH FOREIGN POLICIES,
     THE ORGANIZATION AND FUNCTION OF
     GOVERNMENTAL AGENCIES CONCERNED
     WITH FOREIGN POLICY, AND THE
     FACTORS (AS GEOGRAPHY AND
     ECONOMICS) UNDERLYING FOREIGN
     POLICY

The meaning of terms may also vary between or among disciplines. These terms may be double-scoped when retrieval is not affected, e.g., when two contexts are so closely related that searchers would usually want them both and when other additional index terms would normally be used to distinguish the contexts. Example:

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ERROR ANALYSIS (LANGUAGE)

SN   IN LANGUAGE TEACHING AND TESTING, A
TECHNIQUE OF MEASURING PROGRESS AND
OF DEVISING TEACHING METHODS BY
RECORDING AND CLASSIFYING THE
MISTAKES MADE BY STUDENTS -- IN
LINGUISTICS, THE OBSERVATION OF
ERRORS IN THE SPEECH PROCESS AS A
MEANS OF UNDERSTANDING THE
PHONOLOGICAL AND SEMANTIC
COMPONENTS OF LANGUAGE,
INTERACTIONAL PROCESSES, AND
SPEAKERS' DISCOURSE STRATEGIES

Also, some terms are used interchangeably in both broad and narrow senses, e.g.,

EDUCATIONAL TECHNOLOGY

SN   SYSTEMATIC IDENTIFICATION,
DEVELOPMENT, ORGANIZATION, OR
UTILIZATION OF EDUCATIONAL
RESOURCES AND/OR THE MANAGEMENT
OF THESE PROCESSES --
OCCASIONALLY USED IN A MORE
LIMITED SENSE TO DESCRIBE THE USE
OF EQUIPMENT-ORIENTED TECHNIQUES
OR AUDIOVISUAL AIDS IN
EDUCATIONAL SETTINGS

(3)   "Forced" Concepts

Concepts that, in indexing, have been "forced" into being represented by a closely related Descriptor should be established as new Descriptors if the initial Descriptor becomes moderately to well posted or high to moderate search interest develops.

Where the "forced" concept has in the past been represented in the *Thesaurus* by a USE reference, creation of a note linking past with present is appropriate, e.g.,

BEHAVIOR MODIFICATION

SN   ALTERATION OF BEHAVIOR BY THE USE
OF CONDITIONING TECHNIQUES (NOTE:
PRIOR TO MAR80, THE INSTRUCTION
"BEHAVIOR MODIFICATION, USE
BEHAVIOR CHANGE" WAS CARRIED IN
THE THESAURUS)

When no USE reference is present (or where the word form of the USE reference varies from that selected as the preferred form of the new Descriptor), the historical note linking the term with its prior indexing requires other forms, e.g.,

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MULTICULTURAL EDUCATION

SN   EDUCATION INVOLVING TWO OR MORE
ETHNIC GROUPS AND DESIGNED TO
HELP PARTICIPANTS CLARIFY THEIR
OWN ETHNIC IDENTITY AND
APPRECIATE THAT OF OTHERS,
REDUCE PREJUDICE AND
STEREOTYPING, AND PROMOTE
CULTURAL PLURALISM AND EQUAL
PARTICIPATION (NOTE: DO NOT
CONFUSE WITH "CROSS CULTURAL
TRAINING," WHICH, PRIOR TO
JAN79, WAS FREQUENTLY USED FOR
"MULTICULTURAL EDUCATION")

Where two concepts have previously been "forced" under one Descriptor as a result of "word indexing" (i.e., indexing strictly by words rather than by the meanings behind them), a reciprocal historical note should be made, e.g.,

FOUNDATION PROGRAMS

SN   SYSTEMS WHEREBY STATE FUNDS ARE
USED TO SUPPLEMENT LOCAL OR
INTERMEDIATE SCHOOL DISTRICT
FUNDS FOR ELEMENTARY AND
SECONDARY EDUCATION -- A
"MINIMUM FOUNDATION" OF
FINANCIAL SUPPORT IS USUALLY
GUARANTEED REGARDLESS OF THE
LOCAL DISTRICT'S ABILITY TO
SUPPORT EDUCATION (NOTE: PRIOR
TO MAR80, THIS TERM WAS NOT
SCOPED AND WAS SOMETIMES USED TO
INDEX "PHILANTHROPIC
FOUNDATIONS")

PHILANTHROPIC FOUNDATIONS

SN   TRUSTS OR CORPORATIONS CREATED
FOR CHARITABLE PURPOSES THAT
PROVIDE GRANTS OF FUNDS TO
FINANCE RESEARCH, SERVICES,
FACILITIES, EQUIPMENT, OR
LIBRARY RESOURCES (NOTE: PRIOR
TO MAR80, THIS CONCEPT WAS OFTEN
INDEXED UNDER "FOUNDATION
PROGRAMS," WHICH WAS NOT SCOPED)

(4)   **Mandatory Leveling Terms**

Scope Notes must account for Descriptors having any special roles or functions in ERIC indexing. The mandatory educational level Descriptors are intended to serve a "classing" function---to bring together all materials falling within a certain educational range. (See Section VII, item I.3.a.(1) of this manual.)

The use of a limited authority list of educational level terms for this special function is somewhat at variance with the principle of indexing to the level of specificity of the document/article. One effect is their preponderant assignment as minor index terms. They are major index terms only when representing the subject of a document.

Because of their unique status, the mandatory educational level Descriptors are flagged within the body of the *Thesaurus* with a special instruction in the Scope Note, e.g.,

HIGHER EDUCATION

SN   ALL EDUCATION BEYOND THE
SECONDARY LEVEL LEADING TO A
FORMAL DEGREE (NOTE: ALSO
APPEARS IN THE LIST OF
MANDATORY EDUCATIONAL LEVEL
DESCRIPTORS)

(5)   **Descriptors Corresponding to Publication Type Categories**

Certain Descriptors are sometimes used to index document characteristics other than subject content. Among these are the so-called "Publication Type" Descriptors that are frequently used to index document form, e.g., ABSTRACTS, CURRICULUM GUIDES, QUESTIONNAIRES.

Since mid-1974, however, ERIC has provided a special field for Publication Type tags. Wherever there is an exact match between one of the authorized Publication Type categories and a Descriptor, the Descriptor (as of March 1980) has been reserved for use only when indexing document subject, e.g.,

BIBLIOGRAPHIES

SN   DESCRIPTIVE LISTS OF BOOKS OR
OTHER PRINTED MATERIALS, WHICH
ARE WRITTEN BY ONE AUTHOR,
DURING ONE PERIOD, ON ONE
SUBJECT, PRODUCED BY ONE PRINTER
AND/OR PUBLISHER, OR LOCATED IN
ONE PLACE (NOTE: CORRESPONDS TO
PUBTYPE CODE 131 -- DO NOT USE
EXCEPT AS THE SUBJECT OF A
DOCUMENT)

TESTS

SN   DEVICES, PROCEDURES, OR SETS OF
ITEMS THAT ARE USED TO MEASURE
ABILITY, SKILL, UNDERSTANDING,
KNOWLEDGE, OR ACHIEVEMENT (NOTE:
USE A MORE SPECIFIC TERM IF
POSSIBLE -- THIS BROAD TERM
CORRESPONDS TO PUBTYPE CODE 160
AND SHOULD NOT BE USED EXCEPT AS
THE SUBJECT OF A DOCUMENT)

DOCTORAL DISSERTATIONS

SN   THESES SUBMITTED IN PARTIAL
FULFILLMENT OF DOCTORAL DEGREE
REQUIREMENTS (NOTE: CORRESPONDS
TO PUBTYPE CODE 041 -- DO NOT
USE EXCEPT AS THE SUBJECT OF A
DOCUMENT)

The 22 Descriptors so limited are listed in the Introduction to the *Thesaurus* and are discussed in greater detail in Section VII, item 1.3.d of this manual.

(6)   **Ambiguous Usage**

Certain ERIC Descriptors have had such inconsistent usage over time as to have little value in retrieval. The postings level of

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some of these terms may be so large as to make reposting to other, more precise terms impractical.

As such terms are discovered _and_ if it is determined that postings cannot be readily transferred, they are relegated to "dead" term status. In other words, they are qualified in the _Thesaurus_ with birth/death dates, along with relatively standardized Scope Notes that lead users to other terminology.

EDUCATIONAL PROGRAMS (1966 1980)

SN   INVALID DESCRIPTOR -- USED
INCONSISTENTLY IN INDEXING --
COORDINATE MORE SPECIFIC
DESCRIPTORS

(very broad term used inconsistently in prior years and therefore with little apparent retrieval value—further study may show that most postings may be purged without loss)

HISTORICAL CRITICISM (1969 1980)

SN   INVALID DESCRIPTOR -- ORIGINALLY
INTENDED AS A LITERARY TERM, BUT
USED INDISCRIMINATELY IN INDEXING
-- SEE "LITERARY CRITICISM" AND
APPROPRIATE "HISTORY" TERM(S) FOR
THIS CONCEPT -- SEE ALSO "LITERARY
HISTORY" OR "HISTORIOGRAPHY"

(indiscriminate usage of this term was caused by "word indexing"—postings need to be examined individually to determine potential value)

SELF EVALUATION (1966 1980)

SN   INVALID DESCRIPTOR -- USED FOR
PERSONAL, ORGANIZATIONAL, OR
PROGRAM SELF EVALUATION -- SEE
"SELF EVALUATION (INDIVIDUALS)"
AND "SELF EVALUATION (GROUPS)"
RESPECTIVELY FOR THESE CONCEPTS

(heavily posted term with two meanings, which need to be distinguished—every usage will most likely need to be reposted to one of two preferred Descriptors)

Retrieval considerations occasionally necessitate a cross-reference in the Scope Notes of preferred terms back to "dead" terms. ("Dead" terms carry no standard _Thesaurus_ cross-references, i.e., NTs, BTs, and RTs.)

AMERICAN HISTORY (1966 1980)

SN   INVALID DESCRIPTOR -- ALTHOUGH
SCOPE NOTE REFERRED TO NORTH,
SOUTH, AND CENTRAL AMERICA, TERM
USED FREQUENTLY FOR U.S. HISTORY -
- SEE "NORTH AMERICAN HISTORY,"
"LATIN AMERICAN HISTORY," OR
"UNITED STATES HISTORY"

UNITED STATES HISTORY

SN   (NOTE: PRIOR TO MAR80,
"AMERICAN HISTORY" WAS
OCCASIONALLY USED FOR THIS
CONCEPT)

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(7)   **Dates Appearing in Instructional Scope Notes**

Dates in instructional Scope Notes reflect the calendar
month/year of particular *Thesaurus* updates or changes and do not
refer to RIE and CIJE issues. *Thesaurus* updates usually occur from
1 to 2 months in advance of RIE/CIJE issues; however, on occasion,
they may occur up to 6 months ahead of these publications.
Therefore, searchers must assume that a given change may not have
been effective in RIE or CIJE for up to 6 months after a Scope
Note's calendar date. For that 6-month period, searchers should
consider and employ both the old (pre-change) way of indexing and
the new way of indexing.

5.   **UF (Used For)/USE References**

a.   **General**

The UF and USE references are generally employed to solve
problems of synonymy occurring in natural language. Terms following the UF
notation are synonyms or variant forms of so-called main terms or postable
Descriptors.   These synonyms or quasi-synonyms, also known as
"non-preferred" terms, are not used in indexing or searching; their listing
merely provides a pathway to the preferred terms in the *Thesaurus*. They
thus serve as the access vocabulary, i.e., they represent various points of entry
that users (both indexers and searchers) are likely to try. Ideally, there should
be as many entry points for a given concept as there are ways to describe that
concept.

The importance of the UF notation extends beyond the clear-cut case
of synonymy. The notation can represent the relationship to a Descriptor o.
a near synonym that has a general conceptual similarity, but that is not a true
synonym, and it may also be used to indicate highly specific terms that, for the
purposes of storage and retrieval, are indexed under a more general term.

UFs are entered in the *Thesaurus* as cross-references to main terms,
e.g.,

LABOR
 UF MANPOWER

GRADES (SCHOLASTIC)
 UF MARKS (SCHOLASTIC)

For each UF entered in this manner, the ERIC *Thesaurus* software
automatically generates a reciprocal USE reference. (USE references cannot
be added directly to the *Thesaurus*; they appear only as a reciprocal result of
the generation of UFs.) The reciprocals of the above UFs are:

MANPOWER
 USE LABOR

MARKS (SCHOLASTIC)
USE GRADES (SCHOLASTIC)

These reciprocals are mandatory. They refer the *Thesaurus* user from a non-postable or non-indexable term to the preferred, indexable term or terms.

b.   **Summary of Approved Functions for USE References**

(1)   To refer from synonyms and variant word forms to the preferred form established as the main term. "Synonym" must be understood to mean synonymous for the purposes of retrieval in ERIC. Distinctions made in the literature and in authorities are not important if they do not hold up from the point of view of retrieval.

    SIGHT   HOKKU   SUBJECT ACCESS
    USE VISION   USE HAIKU   USE INDEXING

            ABUSED CHILDREN   DEATH EDUCATION
            USE CHILD ABUSE   USE DEATH

(2)   To refer from a highly specific term to a more general term (posting up), including bringing together the points in a conceptual continuum.

    LEGAL SECRETARIES   GAS WELDING   EARLY DETECTION
      USE   SECRETARIES   USE   WELDING   USE   IDENTIFICATION

(3)   To refer from a commonly accepted acronym or abbreviation to its full form.

    ITA   LRC
      USE   INITIAL TEACHING ALPHABET   USE   LEARNING RESOURCES CENTERS

(4)   To refer from a colloquial term to its scientific or technical equivalent, or from a scientific or technical term to its commonly used equivalent.

    CROSS EYES   CYESIS
      USE   STRABISMUS   USE   PREGNANCY

(5)   To refer from older to current terminology.

    NEGROES (1966 1977)
      USE   BLACKS

(6)   To refer from an antonym when distinctions between opposites are determined to be unimportant for ERIC retrieval.

    DEHUMANIZATION   MALNUTRITION
      USE   HUMANIZATION   USE   NUTRITION

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(7)   To prescribe simultaneous use of more than one term to express a concept.

> FATHER ROLE
> USE   FATHERS
> and   PARENT ROLE

(8)   To refer from a deleted main term to the main term(s) to which the older postings have been transferred.

> COLLECTIVE NEGOTIATION (1967
> 1977)
> USE   COLLECTIVE BARGAINING

c.   **Rules for USE References**

The phrase "USE reference" and the abbreviation "UF" represent reciprocal references to and from the same entity, a non-postable *Thesaurus* term, and the two are often used interchangeably in the following discussion, depending on the point being made.

UF construction follows the rules for the construction of main terms (see item D.2.c of this section), including:

● UFs are limited to 50 characters, including blanks.

● Only noun and noun phrases should be used for UFs.

● Parentheses ( ) are the only punctuation allowed in UFs.

The following additional rules also apply:

(1)   UFs may refer laterally or upward, but never downward, i.e., never from a broader concept to a narrower, more specific concept.

(2)   UFs must bear the same relationship to the hierarchy (BTs/NTs) of a main term as does the main term itself---*except* where a UF, conceptually bearing an RT relationship to the main term, is being treated as synonymous for the purposes of retrieval.

(3)   UFs must bear the same relationship to the RTs of the main term as does the main term itself.

(4)   UFs are restricted to *useful* entry points---those for which there is good probability of use.

(5)   *All* entry points likely as user approaches to a concept should be included as UFs in the *Thesaurus*.

d. **Evaluation and Decision Criteria for USE References**

(1) **Relationship Between UF and Main Term**

The relationship between a UF and its main term should normally be either synonymous or hierarchical.

● **Testing for Synonymity**

Synonyms can be tested by inserting the words "is always" or "are always" between the two terms. The relationship should be true in both directions. Examples:

[UF] is always [main term]
[main term] is always [UF]

SELF DISCIPLINE USE SELF CONTROL	SELF DISCIPLINE is always SELF CONTROL SELF CONTROL is always SELF DISCIPLINE
MINORITY CULTURE USE MINORITY GROUPS	MINORITY CULTURE is always MINORITY GROUPS MINORITY GROUPS are always MINORITY CULTURE
VILLAGE WORKERS USE CHANGE AGENTS	VILLAGE WORKERS are always CHANGE AGENTS CHANGE AGENTS are always VILLAGE WORKERS

---- If the test holds true in both directions, the terms are synonymous.

---- If the terms do not meet the test of "always" in both directions, but do meet the test of "usually" or "frequently," they are near-synonyms. Then the criterion is whether they are synonymous for the purposes of retrieval from the ERIC database. For example, SELF DISCIPLINE and SELF CONTROL are not identical, but are very nearly so:

--- If the UF term were also established as a main term, would the postings on the two terms be distinguishable?

--- Would searchers frequently want one concept but not the other?

If the answers to these questions are negative, then the terms are essentially synonymous and the UF term is appropriate.

---- If the two terms meet the test of "always" only in the direction "UF is always main term," then the relationship is hierarchical and legitimate.

---- If the two terms meet the test of "sometimes" in one or both directions, e.g., CHANGE AGENTS are sometimes VILLAGE WORKERS, then there may be a hidden hierarchical relationship that could be expressed in a new pre-coordination: VILLAGE [or rural] CHANGE AGENTS Use CHANGE AGENTS.

● Testing for Hierarchy

Hierarchically related UFs can be similarly tested by inserting the words "kind(s) of" or "specific application of" between the two terms. The relationship will hold true in one direction. Examples:

[UF] are kinds of [main term]
[main term] are kinds of [UF]

GRANDFATHERS
  USE   GRANDPARENTS

GRANDFATHERS are kinds of GRANDPARENTS (true)
GRANDPARENTS are kinds of GRANDFATHERS (false)

FAILURE
  USE   ACADEMIC FAILURE

FAILURE is a kind of ACADEMIC FAILURE (false)
ACADEMIC FAILURE is a kind of FAILURE (true)

GRAIN MARKETING
  USE   GRAINS (FOOD)

GRAIN MARKETING is a specific application of GRAINS (FOOD) (true)
GRAINS (FOOD) is a specific application of GRAIN MARKETING (false)

---- If the test holds true from UF to main term, the relationship is upward and legitimate.

---- If the test holds true from main term to UF, the relationship is downward and violates the rules for UFs. Such errors can be remedied by qualifying the UF, e.g., FAILURE (SCHOLASTIC).

---- If the test does not hold true in either direction, the relationship is an RT relationship and violates the rules. However, it should be remembered that such relationships may exist whenever the concepts are judged to be sufficiently synonymous for searching purposes. (For a brief discussion of these RT relationships, see "Special Problems in Meaning and Usage" below, item "D.5.e.(5).")

(2)   Relationship Between UF and Rest of Cross-Reference Structure

The BTs, NTs, and RTs of a main term should normally have the same relationship to a UF of the main term as they do to the main term itself.

Examples:

FILMS   (UFs are appropriate
    to NTs and BTs)

    UF BLACK AND WHITE FILMS
        CINEMA
        COLOR FILMS
        MOTION PICTURES
        SILENT FILMS
        SOUND FILMS (1966 1980)
    NT FOREIGN LANGUAGE FILMS
        INSTRUCTIONAL FILMS
        KINESCOPE RECORDINGS
        SINGLE CONCEPT FILMS
    BT MASS MEDIA
        NONPRINT MEDIA
        VISUAL AIDS
    RT AUTEURISM
        CAPTIONS
        CARTOONS
        COPYRIGHTS
        DOCUMENTARIES
        FILM CRITICISM
        FILM INDUSTRY
        FILM LIBRARIES
        FILM PRODUCTION
        FILM STUDY
        FILMOGRAPHIES
        FILMSTRIPS
        LITERARY STYLES
        PHOTOGRAPHS
        POPULAR CULTURE
        REPETITIVE FILM SHOWINGS
        THEATER ARTS
        TRANSPARENCIES
        VIDEOTAPE RECORDINGS

DISARMAMENT   (UFs are appropriate
    to the RTs)

    UF ARMS CONTROL
        MULTILATERAL DISARMAMENT
        NUCLEAR CONTROL
        UNILATERAL DISARMAMENT
    RT ARMED FORCES
        CONFLICT
        INTERNATIONAL RELATIONS
        MILITARY SCIENCE
        NATIONAL DEFENSE
        NUCLEAR WARFARE
        PEACE
        WAR
        WORLD PROBLEMS

(3)   Usefulness of UF as an Access Point

        The access point provided by the UF should be genuinely
useful, i.e.,

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● there should be a good possibility that users of the *Thesaurus* might actually approach the concept via the UF's terminology; and

● the UF's terminology should be found in the literature and in relatively common discourse.

Example: **FASHION INDUSTRY**
```
        SN  CONCERNED WITH THE DESIGN,
            PRODUCTION, AND MARKETING OF
            CLOTHING
        UF  APPAREL INDUSTRY
            CLOTHING INDUSTRY
            GARMENT INDUSTRY
        BT  INDUSTRY
        RT  CLOTHING
            CLOTHING DESIGN
            CLOTHING INSTRUCTION
            NEEDLE TRADES
            OCCUPATIONAL HOME ECONOMICS
            SERVICE OCCUPATIONS
            SEWING INSTRUCTION
            SEWING MACHINE OPERATORS
            TEXTILES INSTRUCTION
```

(4)   **Need for UF as an Access Point**

The need for additional UFs or access points can be tested as follows:

● Check the *Rotated Display* under the key component words of the main term to see the surrounding "terminology terrain." Determine whether UFs from and to those words point to other words that meet the test for synonymity or near-synonymity. Any identifiable patterns of references not already provided for in the Descriptor's UFs should be added.

In the example below, the adjective "occupational" of the 2-word Descriptor OCCUPATIONAL TESTS is viewed in the context of the *Rotated Display*. Alternative words (such as "JOB," "VOCATIONAL," "CAREER," "EMPLOYMENT") that should be considered as additional access points are easily seen.

ALPHABETICAL DISPLAY

```
OCCUPATIONAL TESTS
    SN  TESTS DESIGNED TO PREDICT JOB
        PERFORMANCE BY RECORDING SPECIFIC
        ABILITIES AND INTERESTS THAT
        CORRESPOND WITH THOSE OF PERSONS
        SUCCESSFULLY ENGAGING IN THE
        PARTICULAR FIELD OF WORK (NOTE:
        FOR OCCUPATIONAL INTEREST
        INVENTORIES, USE "INTEREST
```

```
                                    INVENTORIES")
                                 UF ADMISSION TESTS (OCCUPATIONAL)
                                    EMPLOYMENT TESTS
                                    PERSONNEL TESTS
                                    VOCATIONAL TESTS
                                 NT WORK SAMPLE TESTS
                                 BT TESTS
                                 RT APTITUDE TESTS
                                    ASSESSMENT CENTERS (PERSONNEL)
                                    CAREER COUNSELING
                                    EMPLOYMENT QUALIFICATIONS
                                    INTEREST INVENTORIES
                                    JOB PERFORMANCE
                                    JOB SKILLS
                                    LICENSING EXAMINATIONS (PROFESSIONS)
                                    MATURITY TESTS
                                    PERFORMANCE TESTS
                                    PERSONNEL EVALUATION
                                    PREDICTIVE MEASUREMENT
                                    VOCATIONAL APTITUDE
                                    VOCATIONAL EVALUATION
                                    VOCATIONAL INTERESTS
```

ROTATED DISPLAY

```
                     OCCUPATIONAL ADJUSTMENT   Use VOCATIONAL ADJUSTMENT
ADMISSION TESTS (OCCUPATIONAL)   Use OCCUPATIONAL TESTS
                     OCCUPATIONAL ANALYSIS   Use JOB ANALYSIS
                     OCCUPATIONAL ASPIRATION
                     OCCUPATIONAL ASPIRATION LEVEL   Use OCCUPATIONAL ASPIRATION
                     OCCUPATIONAL AWARENESS   Use CAREER AWARENESS
                     OCCUPATIONAL CHOICE (1966 1980)   Use CAREER CHOICE
                     OCCUPATIONAL CLUSTERS
                     OCCUPATIONAL COUNSELING   Use CAREER COUNSELING
                     OCCUPATIONAL DISEASES
   SUPERVISED OCCUPATIONAL EXPERIENCE (AGRICULTURE)
                     OCCUPATIONAL EXPLORATION   Use CAREER EXPLORATION
                     OCCUPATIONAL FAMILIES   Use OCCUPATIONAL CLUSTERS
                     OCCUPATIONAL FOLLOWUP   Use VOCATIONAL FOLLOWUP
                     OCCUPATIONAL GUIDANCE (1966 1980)   Use CAREER GUIDANCE
                     OCCUPATIONAL HEALTH   Use OCCUPATIONAL SAFETY AND HEALTH
                     OCCUPATIONAL HOME ECONOMICS
                     OCCUPATIONAL INFORMATION
                     OCCUPATIONAL INFORMATION SYSTEMS   Use CAREER INFORMATION SYSTEMS
                     OCCUPATIONAL LEVEL   Use EMPLOYMENT LEVEL
                     OCCUPATIONAL MOBILITY
        PROMOTION (OCCUPATIONAL)
                     OCCUPATIONAL PSYCHOLOGY   Use INDUSTRIAL PSYCHOLOGY
                     OCCUPATIONAL SAFETY AND HEALTH
                     OCCUPATIONAL SAFETY AND HEALTH STANDARDS   Use LABOR STANDARDS and
                                                               OCCUPATIONAL SAFETY
                                                               AND HEALTH
                     OCCUPATIONAL SATISFACTION   Use JOB SATISFACTION
                     OCCUPATIONAL SUCCESSION   Use OCCUPATIONAL MOBILITY
                     OCCUPATIONAL SURVEYS
                     OCCUPATIONAL TESTS
                     OCCUPATIONAL THERAPISTS
                     OCCUPATIONAL THERAPY
                     OCCUPATIONAL THERAPY ASSISTANTS
                     OCCUPATIONAL TRAINING   Use JOB TRAINING
```

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● Make sure that access is provided from important key words in the main term (or perhaps in the Scope Note), e.g.,

```
FEAR OF SUCCESS                              PRETEND PLAY
    SN  NEED TO REFRAIN FROM MAXIMALLY           SN  PLAY INVOLVING FANTASY OR MAKE
        UTILIZING ONE'S ABILITIES IN                 BELIEVE
        ACHIEVEMENT SITUATIONS BECAUSE OF       UF  FANTASY PLAY
        EXPECTED NEGATIVE CONSEQUENCES              MAKE BELIEVE PLAY
    UF  SUCCESS AVOIDANCE                            SYMBOLIC PLAY
    BT  FEAR                                    BT  PLAY
    RT  ACHIEVEMENT                             RT  BEHAVIOR DEVELOPMENT
        FAILURE                                      BEHAVIOR PATTERNS
        GOAL ORIENTATION                             DRAMATIC PLAY
        INHIBITION                                   FANTASY
        LOW ACHIEVEMENT                              IMAGINATION
        MOTIVATION                                   IMITATION
        SELF MOTIVATION                              ROLE PLAYING
        SEX ROLE
        SUCCESS
        UNDERACHIEVEMENT
```

- Check titles of documents and articles posted to the main term for clues about alternate word forms and terminology.

FUTURES (OF SOCIETY)
  UF ALTERNATIVE FUTURES
     FUTURE STUDIES
     FUTURISM
     FUTURISTICS
     FUTUROLOGY
  RT APPROPRIATE TECHNOLOGY
     CULTURE LAG
     DECISION MAKING
     DELPHI TECHNIQUE
     EMERGING OCCUPATIONS
     LONG RANGE PLANNING
     PLANNING
     PREDICTION
     PUBLIC POLICY
     RELEVANCE (EDUCATION)
     REVOLUTION
     SCIENCE AND SOCIETY
     SOCIAL CHANGE
     SOCIAL INDICATORS
     TECHNOLOGICAL ADVANCEMENT
     TREND ANALYSIS
     VALUES
     WORLD AFFAIRS

Futures (of Society)

Alternative Images of the Future: Scenarios for Education and the Preparation of Teachers. Conference Proceedings.
ED 181 015

Alternative Scenarios of the American Future: 1980-2000.
ED 178 037

America o Aztlan? Los Chicanos En El Ano 2001 (America or Aztalan? Chicanos in the Year 2001).
ED 178 247

Article Booklet for the Eleventh Course by Newspaper Connections: Technology and Change.
ED 18...

A Futures Curriculum for Symmetry.
ED 180 906

Future Studies in the K-12 Curriculum.
ED 180 859

Futu s Tense: A Workbook for Planning the Use of Land.
ED 176 943

Future Trends in Education Policy.
ED 177 665//

Futurism: Framework for Composition.
ED 179 980

Futuristic Forecasting: Calculated Curriculum Relevance (Using the Methods of the Futurist as a Forecasting Technique).
ED 175 804

Futuristic Images of Guidance and Student Services.
ED 181 400

Futuristics and Education: An ASCD Task Force Report. Professional Paper, 1979-1.
ED 178 384

Futuristics and Education. Fastback 131.
ED 178 398

General Education for the Too Late Generation.
ED...

- Make sure that access is provided for embedded concepts in any compound words in the main term, e.g., COLLEGE COOPERATION, in the case below:

INTERCOLLEGIATE COOPERATION
  SN COOPERATION BETWEEN OR AMONG
     COLLEGES, UNIVERSITIES, OR
     PROFESSIONAL SCHOOLS
  UF COLLEGE COOPERATION (1966 1980)
     INTERCOLLEGIATE ATHLETICS #
     INTERCOLLEGIATE PROGRAMS (1967 1980)
  BT EDUCATIONAL COOPERATION
     INSTITUTIONAL COOPERATION
  RT ARTICULATION (EDUCATION)
     COLLEGE PLANNING
     COLLEGE SCHOOL COOPERATION
     COLLEGES
     CONSORTIA

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e.   **Special Problems in Meaning and Usage**

(1)   **Filing Order/Filing Distance**

The requirements for effective access to the vocabulary vary in different alphabetical sections of the *Thesaurus*. Provision of UFs that have the same first word as the main term is unnecessary if they will file in close proximity to the main term, and if the possibility of additional intervening refe ences and displays appears small. Similarly, several UFs referring to the same Descriptor are redundant if they will file together, whether or not they will appear adjacent to the main term. However, in core areas of the *Thesaurus*, such as the "school" terms, the "student" terms, etc., UFs beginning with the same word, or beginning with the same word as the main term, may nevertheless file at a substantial distance from each other. These references may be vital, e.g.,

> SCHOOL PERSONNEL
> UF SCHOOL EMPLOYEES
> SCHOOL OFFICIALS

A further consideration in determining the usefulness of additional references of this type is the effect of word-by-word filing of the *Thesaurus* Alphabetical Display. In letter-by-letter filing used in ERIC *Thesaurus* editions before 1980, certain USE references would file immediately before or after their respective main terms, and the chances were remote that new entries would fall between them. The following two sets illustrate this situation:

```
AUTO MECHANICS                    SOCIALIZATION
    UF    AUTOMOBILE MECHANICS        UF    SOCIAL LEARNING


AUTOMOBILE MECHANICS              SOCIAL LEARNING
    USE  AUTO MECHANICS               USE  SOCIALIZATION
```

With word-by-word filing, however, many entries now intervene between these sets of terms and the importance of having the USE references is more pronounced.

(2)   **Error of "Mixed Signals"**

Confusion can occur when UFs are considered _only_ from the point of view of the main term. In evaluating UFs and in judging their correctness, it is imperative to consider them not only in the Main Term display but also---

⊙ at the place where they file reciprocally

```
GUIDANCE SPECIALISTS              GUIDANCE WORKERS
   USE    GUIDANCE PERSONNEL         USE    COUNSELORS
```

● under each word in the rotated display

```
TEACHER COMPETENCY              TEACHER QUALITY          TEACHER EFFECTIVENESS
   USE    TEACHER QUALIFICATIONS    USE    TEACHING QUALITY    USE    EFFECTIVE TEACHING
```

The above examples of "mixed signals" existed in the pre-1980 *Thesaurus*.

The situation illustrated by the first example was particularly confusing because COUNSELORS was (and is) a Narrower Term of GUIDANCE PERSONNEL. This error was corrected in three steps:

—Deleting GUIDANCE WORKERS as a UF.

—Clarifying GUIDANCE SPECIALISTS with a double USE reference.

```
GUIDANCE SPECIALISTS
   USE    GUIDANCE PERSONNEL
   and    SPECIALISTS
```

—Adding a historical note to the Scope Note of GUIDANCE PERSONNEL.

```
GUIDANCE PERSONNEL
   SN  PROFESSIONALS ENGAGED IN
       ASSISTING INDIVIDUALS AND GROUPS
       TO DEVELOP REALISTIC AND
       SATISFYING PLANS, GOALS, AND
       ACTIVITIES (NOTE: PRIOR TO MAR80,
       THE INSTRUCTION "GUIDANCE
       WORKERS, USE COUNSELORS" WAS
       CARRIED IN THE THESAURUS)
```

The mixed signals among the above "teacher" term examples were repaired with the following two displays:

```
TEACHER EFFECTIVENESS
   SN  DEGREE TO WHICH TEACHERS ARE
       SUCCESSFUL IN SATISFYING THEIR
       OBJECTIVES, OBLIGATIONS, OR
       FUNCTIONS
   UF  EFFECTIVE TEACHING (1966 1980)
       TEACHER QUALITY
       TEACHING QUALITY (1966 1980)
   BT  TEACHER BEHAVIOR
   RT  ACADEMIC ACHIEVEMENT
       CLINICAL SUPERVISION (OF TEACHERS)
       EDUCATIONAL QUALITY
       EXCELLENCE IN EDUCATION
       INSTRUCTIONAL EFFECTIVENESS
```

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```
                        INSTRUCTIONAL IMPROVEMENT
                        INSTRUCTIONAL INNOVATION
                        SCHOOL EFFECTIVENESS
                        STUDENT EVALUATION OF TEACHER
                          PERFORMANCE
                        TEACHER EVALUATION
                        TEACHER INFLUENCE
                        TEACHER ROLE
                        TEACHERS
                        TEACHING (OCCUPATION)
                        TEACHING MODELS
                        TEACHING SKILLS
                        TEACHING STYLES


        TEACHER QUALIFICATIONS
           SN   ONE'S EDUCATION, EXPERIENCE, AND
                PHYSICAL, SOCIAL, AND MENTAL
                CHARACTERISTICS THAT DETERMINE
                FITNESS FOR A TEACHING POSITION
           BT   QUALIFICATIONS
           RT   ALTERNATIVE TEACHER CERTIFICATION
                EMPLOYMENT QUALIFICATIONS
                MISASSIGNMENT OF TEACHERS
                TEACHER BACKGROUND
                TEACHER CERTIFICATION
                TEACHER CHARACTERISTICS
                TEACHER EDUCATION
                TEACHER EDUCATION CURRICULUM
                TEACHER EVALUATION
                TEACHER SELECTION
                TEACHERS
                TEACHING (OCCUPATION)
                TEACHING EXPERIENCE
```

(Note: No reference was found to be necessary to the old UF TEACHER COMPETENCY since a postings check showed it to have no impact on the earlier use of TEACHER QUALIFICATIONS.)

(3)   **Precoordinated Upward UFs**

        Upward UF references cause no problem as single-word or multiword constructions that directly parallel the words or component concepts of a main term.

```
        ADHESIVES
           UF   CEMENTS (ADHESIVES)
                GLUES
                PASTES (ADHESIVES)
                SEALANTS
                STICKERS

        NONTRADITIONAL EDUCATION
           SN   EDUCATIONAL PROGRAMS THAT ARE
                OFFERED AS ALTERNATIVES WITHIN OR
                WITHOUT THE FORMAL EDUCATIONAL
                SYSTEM AND PROVIDE INNOVATIVE AND
                FLEXIBLE INSTRUCTION, CURRICULUM,
```

```
                              GRADING SYSTEMS, OR DEGREE
                              REQUIREMENTS
                        UF    ALTERNATIVE EDUCATION
                              ALTERNATIVE SCHOOLS (1972 1980)
                              EDUCATIONAL ALTERNATIVES (1974 1980)
                              INSTRUCTIONAL ALTERNATIVES
                              TEACHING ALTERNATIVES
                              TRAINING ALTERNATIVES
```

(Note: The qualifier "adhesives" was necessary in two instances of the first example to avoid so-called "downward" UFs (i.e., from a broader to a narrower concept); downward UFs are serious errors in the "terminology terrain" of a thesaurus.)

However, precoordinated upward UFs that add a _new_ concept, one not directly related to the component concepts of a main term, can cause confusion when they are interpreted too "literally" by indexers and searchers. This problem can best be illustrated with an example.

```
        ACADEMIC ENRICHMENT (1966 1980)
          USE ENRICHMENT

        ENRICHMENT
          UF    ACADEMIC ENRICHMENT (1966 1980)
                ENRICHMENT EXPERIENCE (1966 1980)
          NT    CULTURAL ENRICHMENT
                CURRICULUM ENRICHMENT
                JOB ENRICHMENT
                LANGUAGE ENRICHMENT
                MATHEMATICAL ENRICHMENT
          RT    ENRICHMENT ACTIVITIES
```

As of 1980, the _Thesaurus_ says "ACADEMIC ENRICHMENT, Use ENRICHMENT." (ACADEMIC ENRICHMENT is a former main term.) Beyond the literal command to "use ENRICHMENT," this instruction does two other things:

● It gives the user access to the "terminology terrain" of the word "academic." If one takes the USE reference too literally and uses ENRICHMENT only, access via the word "academic" could be lost. Depending on the document being indexed or the search strategy being formulated, this may or may not be important. Only the indexer or searcher can decide, based upon the particular circumstances of the document being indexed or his/her retrieval needs, whether access via the word "academic" is necessary.

● It leads the user to a display where more specific or precise terminology may be found, including, quite possibly, a more suitable term for the particular document or search strategy. Again, if the user takes the USE reference literally, ENRICHMENT will be used, possibly in lieu of more appropriate terms, e.g., CURRICULUM ENRICHMENT.

(Note: Access under ENRICHMENT is not lost if

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CURRICULUM ENRICHMENT is used, certainly not in computerized retrieval with its word searching capability, but neither in manual searching if users are trained to use the *Thesaurus* properly.)

A USE reference specifies that Term "A" is _not_ a postable concept for the ERIC indexes and that Term "B" (and sometimes Term "C") will be used instead, providing there are no contravening considerations. Thus, the indexing or searching process does not necessarily stop with the use or posting of Term "B." Users should remember that the *Thesaurus* is an access vocabulary, and that USE references merely provide a pathway to the most probable term that one might wish to use. Indexing decisions or search strategies should never be based rigidly on a USE reference alone. Before making a final decision, users should examine the surrounding "terminology terrain" and then proceed to the main term display to which a USE reference leads. To do otherwise is to engage in mere "word indexing" and defeats the utility of a structured vocabulary.

(4)   Inverted Entries or Term Reversals

An early rule with respect to ERIC *Thesaurus* development specifically prohibited the use of inverted entries in cross-referencing. The reasoning behind the rule was that the Rotated Descriptor Display provides access to all words of a multiword Descriptor.

A plethora of inverted entries, of course, would be undesirable, and over the years, this rule has been followed with only rare exceptions. Some examples of inverted entries that presently exist in the *Thesaurus* are:

BATTERIES (ELECTRIC)	DIAGNOSIS	DISCRIMINATION (SOCIAL)
USE ELECTRIC BATTERIES	USE IDENTIFICATION	USE SOCIAL DISCRIMINATION

DIAGNOSIS (CLINICAL)
USE   CLINICAL DIAGNOSIS

DIAGNOSIS (EDUCATIONAL)
USE   EDUCATIONAL DIAGNOSIS

Justification for the "batteries" and "discrimination" reversals is a need for access at the most logical, or commonly thought of, point of entry. Support for the "diagnosis" entries is based on a perceived need to lessen indexer/searcher confusion and eliminate any possibility of term misuse.

It should be emphasized, however, that inverted entries are generally discouraged and that special demonstrable circumstances are necessary to justify them.

(5) **Related-Term Type of Relationship Between a Main Term and the UF Leading To It**

A main term and a UF leading to it may have the same conceptual relationship between them as two Related Terms (RTs).

Such relationships will often be precoordinated upward UFs. In the case of "GRAIN MARKETING, Use GRAINS (FOOD)," the UF is hierarchically related to the main term MARKETING and has an RT relationship to GRAINS (FOOD). The usefulness of the UF GRAIN MARKETING is strictly in preventing the concept's use as an Identifier and requiring that the more general term be used. Confusion over what to do about "marketing" in this instance can be avoided if one remembers to not take the UF "literally." MARKETING or another term to convey this aspect of the document can and should be used also, if warranted.

RT-type UF/main term relationships between "population" concepts and "condition" concepts may cause confusion as well. For instance, the *Thesaurus* instruction "VISUALLY HANDICAPPED, Use VISUAL IMPAIRMENTS" may be difficult to accept. However, experience shows that any differences that may exist between such terms cannot be consistently articulated in the indexing process.

(6) **Colloquialisms**

Slang and colloquialisms are ordinarily not used as UFs, particularly when the terminology of the main term is commonly known and widely used, e.g.,

MARY JANE (DRUG)   STRAW BOSSES
  USE MARIJUANA   USE CREW LEADERS

Alternatives to some colloquial expressions, however, may not come readily to mind. Such expressions may be needed for additional access, e.g.,

BREADWINNERS
  USE HEADS OF HOUSEHOLDS

(7) **Transferred Descriptors**

A former indexable or main term that has been downgraded to the status of a UF term is accompanied by a "life span" notation in parentheses, e.g., "(1966 1974)." The life span notation indicates the span of time in which a term was used in indexing and is helpful in retrospectively searching older manual indexes and computer files. Transferred terms with end dates of 1980 and earlier no longer appear in the ERIC vendor files, i.e., their postings have been transferred to the preferred USE term(s). Transferred terms with end dates after 1980, however, have not been completely updated, and both old and new terms ordinarily must be searched in order to

gather all postings. (The last complete reload of ERIC by the major database vendors was in December 1980.) There are approximately 840 terms in the "1980 and earlier" group as opposed to fewer than 100 in the "after-1980" group. The "transferred, but still searchable" group of terms is listed in commercially published editions of the ERIC *Thesaurus* (see "Transferred Descriptors" in the Table of Contents).

Examples:

STUDENT TESTING (1966 1980)   (Transfer accomplished during the last
   USE   EDUCATIONAL TESTING   vendor reload [Dec80]; only the current
                                     term needs to be searched.)

VIDEODISC RECORDINGS (1979 1986)   (Transfer occurred since the last vendor
   USE   VIDEODISKS   reload [Dec80]); both old and new
                                     terms should be searched.)

An additional parenthetical qualifier accompanies c   in transferred Descriptors that, because of their unusual or final wording, would appear out-of-place or even erroneous if not qualified in their new roles as UFs.

Example:

PROGRESSIVE RETARDATION (1966 1980)
(IN SCHOOL)
   USE   EDUCATIONALLY DISADVANTAGED

Transferred Descriptors with postings split two ways are qualified in the same manner.

Example:

PAINTING (1966 1980) (ARTISTIC)   PAINTING (1966 1980) (INDUSTRIAL)
   USE   PAINTING (VISUAL ARTS)   USE   PAINTING (INDUSTRIAL ARTS)

(This situation is not to be confused with Descriptors whose postings were each transferred to two other Descriptors and are now "double UFs"---See next section.) The qualifiers in the above examples were not attached to the original Descriptors; therefore, they follow the life span notations. Qualifiers that were part of original Descriptors precede the life span notations.

Example:

```
CARDIAC (PERSON) (1968 1980)
    USE   HEART DISORDERS
```

(8)   **Multiple UFs**

The multiple USE reference capability allows for the specification of a concept by up to five term coordinations.

A pound sign (#) following a UF term signifies that two or more main terms are to be used in coordination to represent that UF.

Example:

```
ATHLETICS
    SN SPORTS, GAMES, OR PHYSICAL
       CONTESTS OFTEN ENGAGED IN
       COMPETITIVELY
    UF ATHLETIC ACTIVITIES (1966 1974)
       ATHLETIC PROGRAMS (1966 1980)
       SPORTS
       SPORTS NEWS #
       SPORTS REPORTING #

COLLEGE ATHLETICS
    UF INTERCOLLEGIATE ATHLETICS #
```

A footnote warning users that at least two terms are required to retrieve these flagged concepts appears on every page of the *Thesaurus* Alphabetical Display. This footnote reads as follows:

= TWO OR MORE DESCRIPTORS ARE USED TO REPRESENT THIS TERM. THE TERM'S MAIN ENTRY SHOWS THE APPROPRIATE COORDINATION.

To determine the proper coordination for a multiple UF, the user needs only to consult the UF's reciprocal USE reference (i.e., main entry) in the Alphabetical Display. The reciprocals or main entries for the three multiple UFs given above would be:

```
INTERCOLLEGIATE ATHLETICS        SPORTS NEWS            SPORTS REPORTING
    USE   COLLEGE ATHLETICS          USE   ATHLETICS       USE   ATHLETICS
    and   INTERCOLLEGIATE COOPERATION  and   NEWS MEDIA     and   NEWS REPORTING
```

Multiple UFs should not be used for concepts having high search interest. Direct and specific Descriptors are most necessary and desirable in areas of high search interest, to ensure ease and precision for manual retrieval.

Many existing multiple UFs reflect former precoordinated main terms that had low utility and whose postings were transferred to two broader terms.

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Example:

```
REMEDIAL ARITHMETIC (1966 1980)
  USE   ARITHMETIC
  and   REMEDIAL MATHEMATICS
```

As explained in the immediately preceding discussion on "Transferred Descriptors," terms like the above with end dates of 1980 or earlier have been replaced by their preferred Descriptors and are no longer computer searchable; alternatively, those with end dates of 1981 or later may still exist in the database and, therefore, need to be included in comprehensive search strategies.

Users should be cautioned to be flexible in their use and interpretation of multiple UFs. Like other UFs, multiple UFs can sometimes be taken too "literally." For instance, one of the multiple UFs illustrated above says:

SPORTS NEWS, Use ATHLETICS and NEWS MEDIA

ATHLETICS has many narrower terms or NTs, one of which is FOOTBALL. NEWS MEDIA also has some NTs, including NEWSPAPERS. Remembering ERIC's policy to index to the most specific available Descriptor, the concept "football news" should obviously be indexed with FOOTBALL and NEWS MEDIA, not also with ATHLETICS. For the even narrower concept "football newspapers," NEWSPAPERS should be used, not NEWS MEDIA.

(9)   Disallowance of UFs as Postable Terms

UFs are never to be used as index postings in ERIC records, either in the Descriptor field or as Identifiers.

Any indexer or user who disagrees with a UF, and can see a need to post it, should request a *Thesaurus* change via the procedures in item E.5.d. Reasons for requesting such a change might include the following:

● A broad Descriptor is continually being posted for documents that really pertain to the more specific subject of a UF.

● An outmoded Descriptor is being posted for more contemporary terminology represented by a UF.

● A Descriptor is being misused for different subjects because of a broad or otherwise inappropriate UF.

All errant UFs should, of course, be removed from the *Thesaurus*. UFs so removed would then be acceptable for posting.

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6.   Narrower Terms/Broader Terms

a.   General

Narrower Term/Broader Term (NT/BT) notations are used to indicate hierarchical relationships among Descriptors. Because they are Descriptors, NTs and BTs are indexable and searchable. More than any other feature, hierarchies distinguish a systematic thesaurus from other organized lists of terms. They provide the capability for fine-tuning the indexing and searching processes to the most appropriate level of subject specificity.

Hierarchical relationships are structured using the taxonomic concept of "class membership." Placement of terms within hierarchies helps to define the terms and limits their possible indexing and searching applications.

Narrower Terms represent concepts totally included in the broader class listed above them in the hierarchy.

Example: READING
                NT ORAL READING
                    SILENT READING

Broader Terms include as a subclass each concept represented by a Narrower Term in the hierarchy.

Examples: ORAL READING
                BT READING

                SILENT READING
                BT READING

BTs and NTs have a mandatory reciprocal relationship. Sometimes a term may have more than one Broader Term.

Example: MIGRANT CHILDREN
                BT CHILDREN
                    MIGRANTS

b.   Generic Structuring

Generic structuring involves organizing Descriptors into "hierarchical families." A single hierarchical family is made up of a class or category of concepts and each of its members. Thus, the relationship is the same as that between a thing and its types, or, in zoological terms, a genus and its member species. In ERIC, and many other contemporary information systems, this is the BT/NT relationship.

(1)   BT/NT Relationship

ERIC Descriptors are names (or tags) for classes of information, and a NARROWER TERM of a given Descriptor is simply a subclass within the scope of that given Descriptor, as

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illustrated below:

Example 1:
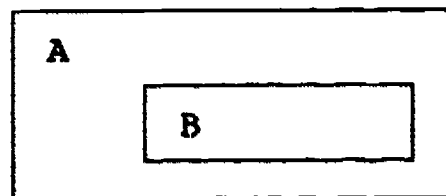
If A and B represent terms in the *Thesaurus*, then B is a narrower term to Term A, because all members of the class represented by Term B are also members of the class represented by Term A. The corresponding reciprocal statement is, of course, that Term A is a broader term to Term B because, while it has members which are not members of Term B, it does include all members of Term B.

The so-called "all-and-some test" is useful in determining whether terms are related in this manner. In one of the ERIC hierarchies, using Example 1, A = ANIMALS and B = LIVESTOCK. The BT/NT relationship of these terms passes the test as represented by the following diagram:


```
    |   ANIMALS      ▲     i.e.,
    |                |     some animals
some|            all |     are livestock;
    |                |     all livestock
    ▼   LIVESTOCK    |     are animals.
```
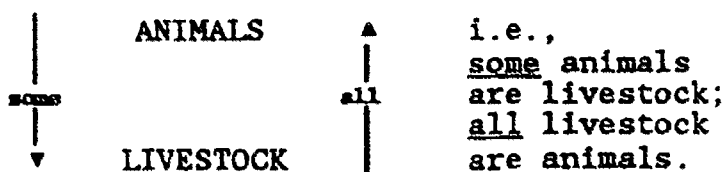
On the other hand, two terms where each has only some members in common with the other (i.e., a class overlap) would be illustrated as follows:

Example 2:
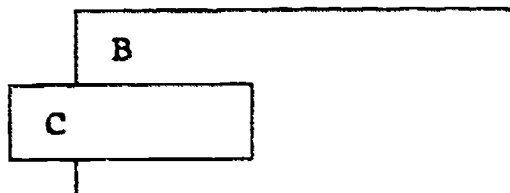
In this example, Term C is not a narrower term to Term B, nor is Term B a broader term to Term C, because although the terms have members in common, all of the members of Term C are not also members of Term B.

Example 2 can be illustrated with the ERIC terms LIVESTOCK (= B) and HORSES (= C). Using the "all-and-some test":

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LIVESTOCK

HORSES

i.e., some horses are livestock; some livestock are horses, but all horses are not livestock; all livestock are not horses.
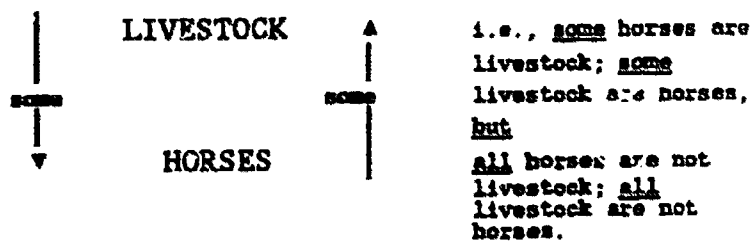
Two terms representing totally different types of things such as actions, objects, properties, fields of study, etc., obviously cannot pass the "all-and-some test" and, therefore, cannot logically be hierarchical.

Example 3:

A	D
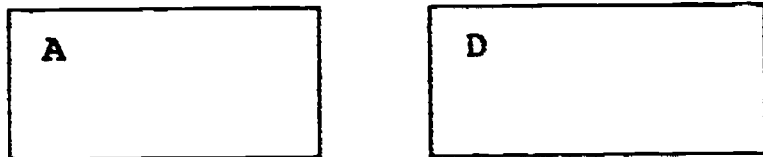
A pair of terms such as ANIMALS and ANIMAL HUSBANDRY, or HORSES and HORSEBACK RIDING, may be considered associated, but not associated hierarchically. (For "associative relationships," see section D.7 on "Related Terms.")

(2)   **Hierarchical Levels and Branches**

There can be many levels in a hierarchy, as in the following example:

Example 4:

D
  E
    F
      G
        H
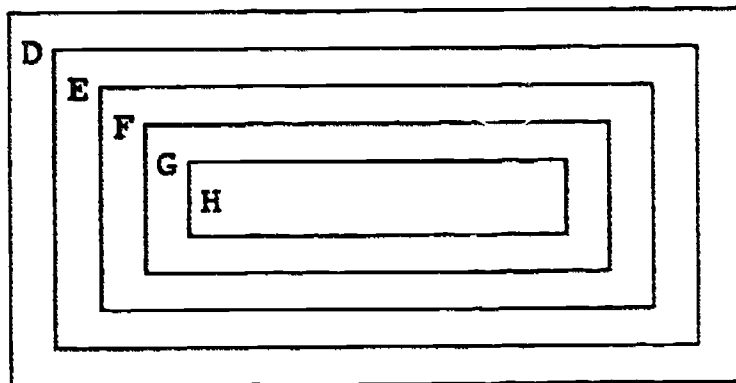
Term F lies in the middle of this hierarchy with two broader terms and two narrower terms. These levels would appear in the *Thesaurus* Alphabetical and Hierarchical Displays like this:

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Alphabetical Display	Hierarchical Display
Term F	::Term D
NT Term G	:Term E
BT Term E	Term F
	.Term G
	..Term H

Invalid multiple entries or unintentional splits can occur in the Hierarchical Display if care is not taken in BT/NT structuring. Terms should be entered in the *Thesaurus* file with only their most immediate broader and narrower terms cited, i.e., in the same manner in which they will appear in the Alphabetical Display. In Example 4, if Term F were entered citing both D and E as broader terms and G and H as narrower terms, the Hierarchical Display, interpreting this as meaning D and E are at the same level of broadness and G and H are at the same level of narrowness, would contain incorrect double entries.

```
:Term D] - Incorrect Double Entry
::Term D
:Term E
Term F
.Term G
..Term H
.Term H] - Incorrect Double Entry
```

On the other hand, assume that Terms D through H are members of an existing hierarchy and that new Term "X" needs to be inserted between F and G. The input of Term X would correctly carry the BT Term F and the NT Term G. But, in addition, the previous (now invalid) relationship between F and G would need to be expunged. Otherwise, the following faulty hierarchy would result:

```
Term D
.Term E
..Term F
...Term G] - Incorrect Double Entry
...Term X
....Term G
.....Term H
```

The inverse situation occurs if a term is deleted from the middle of a hierarchy. For instance, if Term F were deleted from the Example 4 hierarchy or purged altogether from the *Thesaurus*, a second transaction would be necessary in order to maintain the BT/NT relationship between Terms E and G. Otherwise, a hierarchical "split" would result and leave two independent and seemingly unrelated hierarchies, as in Example 5.

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Example 5:

D [E]	G [B]

Example 4 illustrates a hierarchy with many levels, each with only one immediately adjacent BT or NT relationship. Although only the next higher (BT) or lower (NT) level is used in generic structuring, this does not mean that a term is limited to one BT or NT.

A given term may be a member of two entirely separate hierarchies. Example 6 illustrates this characteristic, sometimes called a *polyhierarchical relationship*:

Example 6:

[L [K [M [N]]]]

INSTITUTIONS (K)   INFORMATION SOURCES (L)

LIBRARIES (M)

SCHOOL LIBRARIES (N)
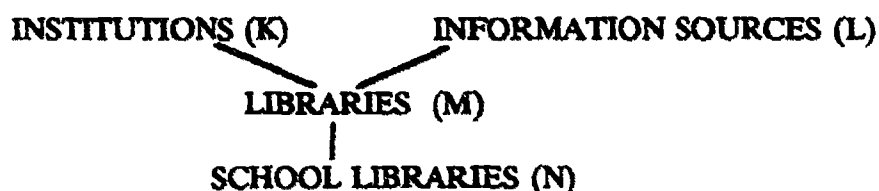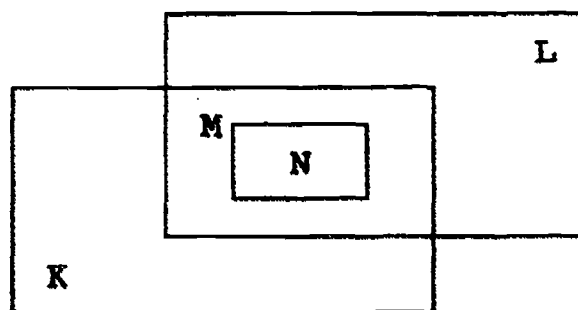
Terms K and L are both immediately broader to Term M and should be so displayed. Term M (and its NT, Term N) will then properly appear in both hierarchies. Below the example are four ERIC Descriptors, arranged to further illustrate this relationship.

Example 7 illustrates the possibility of Terms K, L, M, and N appearing together in one hierarchy:

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Example 7:

PERSONNEL (J)

HEALTH PERSONNEL (K)   PROFESSIONAL PERSONNEL (L)

NURSES (M)

SCHOOL NURSES (N)
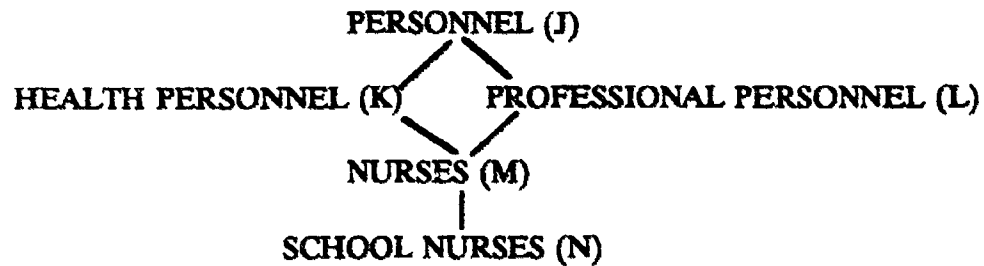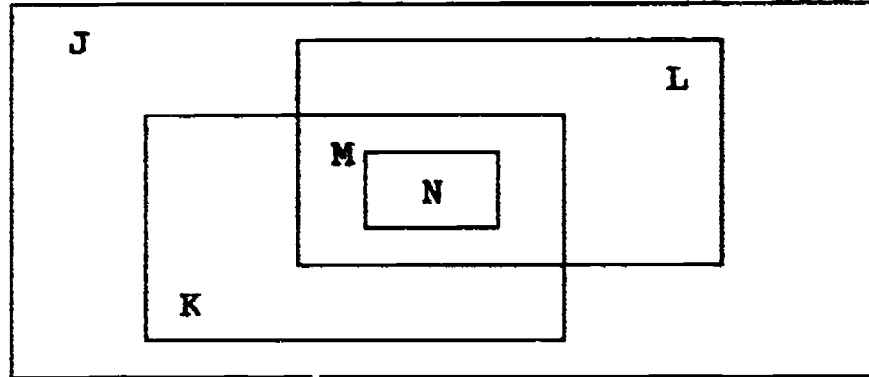
Term J encompasses Terms K through N. Once again, ERIC Descriptors are arranged below the example to further illustrate these relationships.

In this instance, Terms M and N would appear twice in the hierarchy of Term J, under both Term K and Term L. This double appearance of M and N is legitimate, since Terms K and L have no generic relationship to each other even though they share a common BT and the same NTs. A Hierarchical Display printout of this example would appear as follows:

> Term J
> .Term K
> ..Term M
> ...Term N
> .Term L
> ..Term M
> ...Term N

As one often finds more than one BT at the next higher generic level, multiple NTs at the next lower generic level are even more common. This situation may be illustrated as follows:

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Example 8:
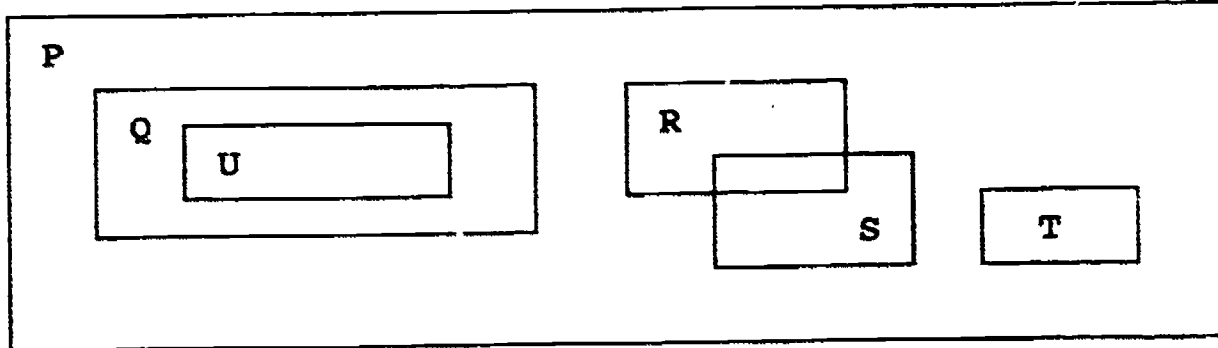
Terms Q through T are all narrower to Term P at the next generic level and would be carried as NTs during input to the *Thesaurus* file. Only Term U would not be included during input, since it is an NT of Term Q. Its inclusion directly under Term P would cause an invalid double entry in the hierarchy.

c.   **Part-Whole Relationships**

One relationship that is occasionally handled by the NT/BT structure but that cannot legitimately be called "generic" is the part-whole relationship. Parts and their wholes, if cross-referenced to each other at all, are usually related as RTs. For example, SCHOOL BUILDINGS and CAMPUSES are certainly related to one another but in the sense of a part to the whole, not a generic sense. SCHOOL BUILDINGS are a part of CAMPUSES, but are not CAMPUSES in themselves. (See section D.7 on "Related Terms.")

Part-whole NT/BT relationships, in which the "part" always and unambiguously belongs to a particular "whole," are used in many information retrieval systems. It is particularly common to see geographic locations structured in this manner (e.g., Maryland BT United States, Maryland NT Baltimore). Parts of the human body are sometimes arranged this way also (e.g., Stomach BT Digestive System, Brain NT Cerebrum).

The ERIC system indexes geographic locations as Identifiers (see Identifier section VIII-2). Identifiers are not structured in hierarchies. Also, the ERIC *Thesaurus* carries only a few Descriptors relating to the human body, and these are <u>not</u> structured into part-whole hierarchies. Part-whole hierarchies can be useful in structuring the relationships of a certain limited number of terms for indexing and searching. However, there are few such hierarchies in the ERIC *Thesaurus* today, and <u>their use generally is discouraged</u>.

d.   **Possible Use Relationships**

Just as part-whole relationships are generally disregarded for BT/NT structuring, so are relationships based on the possible applications or uses of an entity. For example, the term ATLASES is not considered to be a member of the generic family INSTRUCTIONAL MATERIALS because, although ATLASES are sometimes used as INSTRUCTIONAL MATERIALS, they are not necessarily used this way. However, ATLASES

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are always REFERENCE MATERIALS, and an NT/BT structure here would be correct. ATLASES and INSTRUCTIONAL MATERIALS could be RTs, but since REFERENCE MATERIALS is already carried as an RT of INSTRUCTIONAL MATERIALS, the one relationship is sufficient. (See RT rules regarding proliferation, item D.7.c.(2) of this section.)

Another example of this situation is the relationship between WINDOWS and VENTILATION. WINDOWS are objects, and VENTILATION is a process so there can be no NT/BT relationship. But, even if the latter term's form was VENTILATORS, there could still be no hierarchy, because some WINDOWS are not VENTILATORS at all, but are used for the sole purpose of LIGHTING. Usage relationships such as these---WINDOWS used for LIGHTING and VENTILATION---are carried in the ERIC *Thesaurus* as RTs.

e. **Special Problems with Hierarchies**

(1) **Finding the Right Hierarchy**

Determining the correct hierarchical placement for a particular term is usually not a difficult task. Familiarity with, and experience in using, the *Thesaurus* are valuable for generic structuring, but are not essential.

The important thing is to remember to determine *Thesaurus* precedents and to follow their examples. The attempt should be to locate parallel *Thesaurus* terms and to use their hierarchical placement as a guide. The type of term being worked on is important---does it represent action, a group of objects, a process, a subject field or discipline? A determination of "type" will narrow down considerably the hierarchical families where a particular term might fit. The proper Descriptor Group should also be determined, and existing terms in the chosen group should be examined to see where they fit in the hierarchies. Additionally, the Rotated Display should be consulted to locate terms having the same, or nearly the same, words as the term under consideration---see the hierarchies of those terms. If a proper hierarchical placement cannot be determined after these steps, other thesauri or structured word lists should be checked to see if and how they carry the particular term. (Remember, however, that the existing structure in the ERIC *Thesaurus* takes precedence and should guide the final placement of a term more than the structures of other authorities.)

If, after all of the above steps, a proper hierarchy still cannot be found, the particular term is most likely a hierarchical "isolate" (i.e., it has no NTs nor BTs).

Proper hierarchical placement requires that the scope of a particular term: (1) be within the scopes of its BTs; and (2) adequately subsumes the scopes of all its NTs. This is why it is better to leave a term in isolation than to force it into a hierarchy where it does not truly belong. Terms improperly placed in isolation

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may be overlooked in "subject-specific" indexing and searching; on the other hand, improper hierarchical placement can cause the incorrect term and all its NTs and BTs to be misread and misused (a more serious consequence).

(2) **Hierarchical Visibility**

A rule for generic structuring in item D.6.b.(2) states that terms are entered in the *Thesaurus* file citing only their _most immediate_ broader and narrower terms. Without this rule, there could be no multilevel hierarchical structures (i.e., beyond _one_ BT/NT level).

Terms appear in the Alphabetical Display (main display) of the *Thesaurus* just as they are entered in the file. Therefore, just as it must be remembered to enter a term with only its most immediate BTs and NTs, so it must also be remembered that the main Alphabetical Display of a term shows nothing beyond these immediate levels. Take, for example, the term PHYSICAL ACTIVITIES as it appears in the Alphabetical Display:

```
PHYSICAL ACTIVITIES
    NT  ATHLETICS
        BICYCLING
        DANCE
        EXERCISE
        HORSEBACK RIDING
        LIFTING
        RUNNING
        UNDERWATER DIVING
    BT  ACTIVITIES
```

This display shows eight NTs and one BT. Additional generic structures or more distant hierarchical relationships could, of course, be checked by examining the main display of each BT/NT cross-reference and continuing to track BTs and NTs until the most general or specific term is found. Such cross-checking is tedious and time-consuming and can be entirely avoided if the Hierarchical Display is consulted. PHYSICAL ACTIVITIES appears in this display as follows:

```
:ACTIVITIES
PHYSICAL ACTIVITIES
    .ATHLETICS
    ..AQUATIC SPORTS
    ...DIVING
    ...SAILING
    ...SURFING
    ...SWIMMING
    ...WATER POLO
    ...WATERSKIING
    ..ARCHERY
    ..BOWLING
    ..COLLEGE ATHLETICS
    ..EXTRAMURAL ATHLETICS
    ..FENCING (SPORT)
```

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```
..GOLF
..GYMNASTICS
...TUMBLING
..HANDBALL
..INTRAMURAL ATHLETICS
..LIFETIME SPORTS
..OLYMPIC GAMES
..ORIENTEERING
..RACQUET SPORTS
...BADMINTON
...RACQUETBALL
...SQUASH (GAME)
...TENNIS
..ROLLER SKATING
..SPECIAL OLYMPICS
..TABLE TENNIS
..TEAM SPORTS
...BASEBALL
...BASKETBALL
...FIELD HOCKEY
...FOOTBALL
...ICE HOCKEY
...LACROSSE
...SOCCER
...SOFTBALL
...TEAM HANDBALL
...VOLLEYBALL
...WATER POLO
..TRACK AND FIELD
..WEIGHTLIFTING
..WINTER SPORTS
...ICE HOCKEY
...ICE SKATING
...SKIING
..WOMENS ATHLETICS
..WRESTLING
.BICYCLING
.DANCE
.EXERCISE
..AEROBICS
..CALISTHENICS
..PLYOMETRICS
.HORSEBACK RIDING
.LIFTING
..WEIGHTLIFTING
.RUNNING
..JOGGING
.UNDERWATER DIVING
```

The Hierarchical Display provides complete two-way visibility of the broader-narrower relationships of every Descriptor in the *Thesaurus*. In the case of PHYSICAL ACTIVITIES, the display confirms that there is, in fact, only one BT, but it also shows a total of 58 NTs (ICE HOCKEY, WATER POLO, and WEIGHTLIFTING appear twice), including 50 additional specific terms that were not evident in the main display of the term.

Total hierarchical visibility is provided only by the Hierarchical Display. Indexers and searchers alike need to be familiar with this tool and encouraged to use it regularly. Consistent usage by indexers results in subjects of the appropriate level of specificity being posted to ERIC records. Assuming proper indexing,

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consistent usage by searchers assures precise and relevant retrieval. Failure to consult this display may cause confusion over seemingly incomplete BT/NT relationships that can result in indexing inconsistencies and consequent retrieval problems.

Indexing and searching, however, should never be performed on the basis of the Hierarchical Display alone. Full meanings and proper uses of terms cannot be determined without consulting the main Alphabetical Display, with its Scope Notes and cross-references.

(3)   **Hierarchical Searching**

ERIC documents are indexed to the most specific available Descriptors. An NT and its BT would not normally be indexed to the same document, unless both specific and general subjects were spoken to in some detail. Thus, complete searching of a broad concept (e.g., PHYSICAL ACTIVITIES) needs to consider not only documents posted by the broad term but all documents posted by its narrower terms (e.g., LIFTING, RUNNING) as well. Relevant RTs must be considered too (e.g., PHYSICAL ACTIVITIES has the RTs PHYSICAL EDUCATION and PLAYGROUND ACTIVITIES among others).

Access to the *Thesaurus* is essential in searching. A manual searcher might look up a term like LIBRARIES and never think to consider ACADEMIC LIBRARIES, SPECIAL LIBRARIES, or other available NTs under which documents of interest might be found. And, what if the searcher looks up the BT LIBRARIES in an index journal and finds nothing? Without considering the *Thesaurus* and its NTs, it might be assumed at this first glance that the particular index journal has nothing on the subject. On the other hand, without access to the *Thesaurus*, a computer searcher might use a common word to "hit" a number of Descriptors (e.g., LIBRARIES, ACADEMIC LIBRARIES, etc.) but, at the same time, fail to find many documents indexed by cross-referenced terms not having such common words. Even in full-text computer searching, the *Thesaurus* provides many clues for alternative words, phrases, and coordination strategies.

The online and CD-ROM vendors offering access to ERIC usually include the ERIC *Thesaurus* as an online/ondisk search aid, and have the capacity to "explode" terms from the *Thesaurus*, i.e., to automatically retrieve not only specified terms, but their most immediate narrower terms as well. This would not generally include the automatic searching of entire generic trees. (See previous section on "Hierarchical Visibility" and the Descriptor PHYSICAL ACTIVITIES, an explosion of which would include its own postings plus those of its eight immediately NTs, but typically not those of the remaining 5? terms further down the hierarchy.)

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(4)   Rule of Specificity

Just as the "rule of specificity" comes into play in the indexing process, it must be a consideration in generic structuring as well.

Basically, the rule as applied to indexing states that documents will be indexed to the specific level of subject matter with which they deal, and will not also be "indexed up" to a higher generic level, except in instances where generalities and particulars are handled together in the same material. Indexing "specifically" gives a searcher, armed with the *Thesaurus*, the maximum number of options, i.e., the searcher may request those items indexed by:

- an NT alone;
- its BT alone;
- either the NT <u>or</u> its BT;
- both the NT <u>and</u> BT.

If the rule of specificity is not observed, the searcher has fewer options. This principle is discussed in more detail in Section VII of this manual, under the subitem entitled "Indexing Specificity."

However, the rule of "specificity" applies <u>only</u> to indexing with <u>Descriptors</u> since only Descriptors have comprehensive NT/BT structures.

Identifiers are not hierarchically related to Descriptors. Therefore, as the examples below illustrate, specific Identifiers are often assigned concurrently with generic or conceptually broader Descriptors.

Examples:

```
IDEN_Oklahoma
DESC_State Programs; State Surveys

IDEN_Test of English as a Foreign
        Language
DESC_Language Tests; Second
        Language Learning

IDEN_Individuals with Disabilities
        Education Act
DESC_Children; Disabilities;
        Federal Legislation; Federal
        Programs

IDEN_Apollo Program
DESC_Aerospace Technology; Lunar
        Research
```

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IDEN_Cricket (Sport)
DESC_Team Sports

IDEN_Algonquian Languages
DESC_American Indian Languages

IDEN_Water Rights
DESC_Conservation (Environment);
    Legal Problems; Water
    Resources

IDEN_Analogical Reasoning
DESC_Logical Thinking

IDEN_Inventory Control
DESC_Bookkeeping; Data Processing
    Occupations; Office
    Management; School
    Accounting

IDEN_Confidence Intervals
    (Statistics)
DESC_Error of Measurement;
    Predictive Measurement;
    Risk; Statistical
    Analysis; Test
    Reliability

IDEN_Country Music
DESC_Music

IDEN_Shoplifting
DESC_Stealing

IDEN_Hope
DESC_Emotional Response;
    Expectation;
    Psychological Patterns;
    Trust (Psychology)

Emerging subjects or concepts in the literature that have the characteristics of Descriptors, but which have not yet been added to the *Thesaurus*, should not be permitted to linger for long in the Identifier field. Because of the "indexing to the specific Descriptor" rule, Identifier indexing does not allow generic/specific distinctions and, without the guidance of hierarchical and related-term structures, can be very inconsistent. It is not hard to see that a group of indexers will more readily agree on how to index a particular document, if most of the appropriate vocabulary is controlled and structured. On the other hand, indexing disagreements are more likely when a large percentage of a system's indexing vocabulary is

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based on a simple alphabetical list of (theoretically unlimited) term choices.

Excluding the first four examples, each of the above Identifiers has the characteristics of a Descriptor and might be considered as a candidate for the ERIC *Thesaurus*. A Clearinghouse's general rule of thumb should be to start thinking of a term's *Thesaurus* "fit" after about 5 postings, and to have a *Thesaurus* input form in the mail to the Facility after about 10 postings.

7.   **Related Terms**

a.   **General**

Related Terms (RTs) are cross-references that are neither hierarchical (BT/NT) nor equivalent (USE/UF) but are essential for informing users of alternative terms for indexing/locating documents on given subjects. An RT relationship exists when there is a strong conceptual bond between two terms, which sometimes, but not always, is reflected by concurrent usage in the literature.

The RT relationship is always reciprocal or two-sided, as the two examples given below show:

```
CHILD ABUSE                         CHILD WELFARE
   UF ABUSED CHILDREN                  BT WELL BEING
   BT ANTISOCIAL BEHAVIOR              RT ADOPTED CHILDREN
   RT CHILD WELFARE                       CHILD ABUSE
      CHILDREN                            CHILDREN
```

b.   **Categories of RTs**

(1)   **Defined by Engineers Joint Council (EJC), 1966**

Sometimes called the "associative relationship," the RT has been referred to as "vague" and "difficult to define," and it is universally acknowledged that assignments must be somewhat subjective. Various rules and principles have developed over the years that indexers or lexicographers can consider in establishing RTs. Some of the clearest and best guidance in the area, however, was written over 25 years ago. The following paragraph from American National Standard Z39.19-1974 is a slightly modified version of an earlier writeup in *Thesaurus Rules and Conventions*, published by the Engineers Joint Council (New York) in November 1966. The examples, however, are ERIC's.

"The RT reference is employed as a guide from a given term to other terms that are closely related in ways other than the genus-species (BT-NT) relationship. In general, any two terms bear the cross-reference RT to each other if it is believed that the user, when examining one of them, might

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want to be reminded of the existence of the other. RT references may be used to identify relationships such as the following:

- Terms that are near-synonyms

  ACHIEVEMENT/PERFORMANCE
  BIRTH/REPRODUCTION (BIOLOGY)
  CURRICULUM GUIDES/TEACHING GUIDES
  EDUCATION/INSTRUCTION
  ORAL READING/READING ALOUD TO OTHERS

- Terms that have viewpoint [or practical] interrelationships, such as a relationship based on usage

  ARITHMETIC/FRACTIONS
  ARTISTS/PAINTING (VISUAL ARTS)
  CHILDREN/PLAY
  COST INDEXES/INFLATION (ECONOMICS)
  CULTURE FAIR TESTS/TEST BIAS
  HEALTH/DISEASES
  HEALTH FACILITIES/MEDICAL SERVICES
  HUNGER/NUTRITION
  WINDOWS/VENTILATION

- Terms representing concepts bearing a whole-part relationship to each other

  BUILDINGS/ROOFING
  HUMAN BODY/CARDIOVASCULAR SYSTEM
  INTERNATIONAL RELATIONS/DISARMAMENT
  SCHOOL CATALOGS/COURSE DESCRIPTIONS

- Terms that represent overlapping concepts

  CIVIL LIBERTIES/JUSTICE
  CREDIBILITY/INTEGRITY
  DRUG EDUCATION/DRUG REHABILITATION
  GEOGRAPHY/CARTOGRAPHY
  SOCIAL PSYCHOLOGY/CRIMINOLOGY
  SPECIFICATIONS/CRITERIA

(2) **Defined by Other Authorities**

Other authorities which elaborate the RT relationship and provide useful examples are:

- Barhydt & Schmidt. *Information Retrieval Thesaurus of Education Terms*. Cleveland: Press of Case Western Reserve Univ. , 1968. pp 15-18.

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- Lancaster. *Vocabulary Control for Information Retrieval.* Arlington, VA: Information Resources Press.

  --- 1986, 2nd ed. pp 45-49.

  --- 1972, 1st ed. pp 80-85
  (Includes the Barhydt/Schmidt discussion).

- National Information Standards Organization (NISO). *American National Standard Guidelines for the Construction, Format, and Maintenance of Monolingual Thesauri.* Bethesda, MD: 1990. (ANSI/NISO Z39.19-199x) pp 50-55.

- Aitchison & Gilchrist. *Thesaurus Construction—A Practical Manual.* Second edition. London: Aslib, 1987. pp 45-50

- UNESCO. *SPINES Thesaurus.* Vol. 1. English/Multilingual edition of the 1984 revision. Paris: 1988. pp xiv.

- Borko & Bernier. *Indexing Concepts and Methods.* New York: Academic Press, 1978. pp 29-30.

These few sources, constituting about all that has been written on the subject of RTs, provide an appreciation and understanding of the complexities of RT relationships. Each source defines somewhat different categories of RTs, but all are variations on the four basic EJC categories given above. Some of the other categories of RT relationship to be found in these works (again, the examples are ERIC's) are:

- Field of Study and Items Studied

  CHEMISTRY/ATOMIC STRUCTURE
  PSYCHIATRY/MENTAL HEALTH
  SEX EDUCATION/VENEREAL DISEASES

- Near Antonyms (Interactive)

  DEDUCTION/INDUCTION
  FAILURE/SUCCESS
  MARRIAGE/DIVORCE

  --- A Thing and Its Counter Agent

  RATS/PESTICIDES

- Cause and Effect

  DEATH/WIDOWED
  LEARNING/SCHOLARSHIP

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- A Thing and Its Producing Agent

    INSURANCE/RISK
    LONELINESS/SOCIAL ISOLATION
    POPULAR CULTURE/MASS MEDIA
    VIOLENCE/REVOLUTION

    --- Product and Process

    ORAL HISTORY/INTERVIEWS
    PHOTOGRAPHS/PHOTOGRAPHY
    READERS THEATER/ORAL INTERPRETATION
    TECHNOLOGICAL ADVANCEMENT/INVENTIONS

    --- Process and Responsible Group

    AGRICULTURE/FARMERS
    SUPERVISION/SUPERVISORS

- A Thing and Its Recipient or User

    CHILD WELFARE/FOSTER CHILDREN
    SEASONAL EMPLOYMENT/MIGRANT WORKERS
    SEWING MACHINE OPERATORS/FASHION INDUSTRY

- A Thing and Its Purpose or What It Characterizes

    BIBLIOGRAPHIES/BOOKS
    LOCAL GOVERNMENT/COMMUNITY SERVICES
    MARRIAGE COUNSELING/MARITAL INSTABILITY
    TEACHING MACHINES/PROGRAMED INSTRUCTION
    TOYS/PLAY

- Having the Same Broad Term and Overlapping Conceptually
  (sometimes referred to as "siblings"; often used interchangeably)

    AMERICAN INDIANS/CANADA NATIVES
    PARENTS/FAMILY (SOCIOLOGICAL UNIT)
    RETAILING/MERCHANDISING
    RHETORIC/SPEECH

    The above categories illustrate the most common RT relationships. No attempt has been made to describe every conceivable type of RT. Lancaster states that "in a sense, every thesaurus term is related to every other thesaurus term at varying strengths of semantic association." The task of the indexer or lexicographer, then, in developing an RT display, is to try to include those terms that are sufficiently closely related to be of obvious benefit to users of the ERIC *Thesaurus*.

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c.   **Selection of RTs for a Term Display**

(1)   **Establishing a List of Candidate RTs**

It is recommended that you do not start by trying to fit the concept you are working on into predetermined RT categories such as the ones described above. Instead, break the concept down into the various ways it can be used or expressed. (For example, BOOKS are written, published, reviewed, serialized, listed in bibliographies, housed in libraries, etc.) Make a list of all potential RTs as you think of them.

Now, look at the Scope Note you developed for the concept and definitions you consulted, and add key words and phrases from these to your list. You may want to expand your list by looking at other thesauri to see how they express and display your concept. Also of value is a check to see if the concept appears as an Identifier or in the text of ERIC records. Full-text and Identifier searches of the file, to examine the indexing terms assigned to the retrieved records, are recommended for this purpose. You should now have a reasonably complete list of alternative words and phrases that are available for expressing your concept and for putting it into a proper thesaurus context.

You are now ready to begin structuring RTs for your concept. First, match all terms on your list with existing Descriptors in the *Thesaurus*. You will then have a new list of terms to work from, and your original list of terms may be set aside. From this point on, you are working with legitimate ERIC Descriptors.

Go Descriptor-by-Descriptor down your new list, looking at the full display of each term. In doing this, you will undoubtedly find other Descriptors that you initially did not consider. Add these to your list. The main thing that you'll be trying to decide by this exercise is whether your concept fits comfortably in each of the various displays of the candidate RTs under examination. Consider your concept's hierarchical siblings (other Descriptors from the hierarchy(s) you chose for your concept, especially those at the same hierarchical level) and other Descriptors that are grammatical variations of your concept and its synonyms (e.g., gerunds, adjectival variations, etc.). Do they appear in a given display? If not, your concept probably does not belong there.

On finishing this exercise, you will have a third list of Descriptors which, in all probability, will be your final list of recommended RTs. However, it is usually helpful to go through the list once more to look for conceptual "holes" or "displacements." A look at the *Rotated Display* is helpful here. Ask yourself during this check if broader or single-word Descriptors can better express the relationships you want to convey than the more specific terms you are considering.

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(2)   **Avoiding Proliferation of RTs**

It is very important to avoid proliferating RTs since no one can effectively use excessively long displays. Often, one RT cross-reference at the broad conceptual level can better express the desired relationship than several more specific references. In this regard, the maxim known as "Ockham's Razor" is useful to keep in mind.

Ockham's Razor...

*"Multiplicity ought not to be
posited without necessity."*

William of Ockham
(philosopher, early 14th century)

For example, if HISTORY INSTRUCTION is related to HISTORY, it does not also need to be related to UNITED STATES HISTORY, MODERN HISTORY, BLACK HISTORY, etc. Additional examples are given below of ways to avoid proliferation in the RT field:

● <u>Avoid proliferation.</u> In the example below, STUDENT CHARACTERISTICS could conceivably be related to STUDENTS and all of its Narrower Terms, but a single cross-reference to STUDENTS is all that's necessary.

<u>Preferred</u>   STUDENTS
                      RT   STUDENT CHARACTERISTICS

<u>Not Preferred</u>   PART TIME STUDENTS
                      RT   STUDENT CHARACTERISTICS

● Try to select the proper hierarchical level for your cross-references. For example, DUAL ENROLLMENT and SHARED RESOURCES AND SERVICES are best related to INSTITUTIONAL COOPERATION, and not also to the narrower INTERCOLLEGIATE COOPERATION.

<u>Preferred</u>   INSTITUTIONAL COOPERATION
                      RT   DUAL ENROLLMENT
                           SHARED RESOURCES AND SERVICES

<u>Not Preferred</u>   INTERCOLLEGIATE COOPERATION
                      RT   DUAL ENROLLMENT
                           SHARED RESOURCES AND SERVICES
                      INSTITUTIONAL COOPERATION
                      RT   DUAL ENROLLMENT
                           SHARED RESOURCES AND SERVICES

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- Try to select the simplest, most direct term, particularly when deciding among several potential terms in the same alphabetic sequence.

  <u>Preferred</u>   VERBAL COMMUNICATION
                       RT   READING

  <u>Not Preferred</u>   VERBAL COMMUNICATION
                       RT   READING MATERIALS
                       VERBAL COMMUNICATION
                       RT   READING SKILLS

- Try to select the most subject-specific relationship available among several possible terms.

  <u>Preferred</u>   INTERNATIONAL EDUCATIONAL EXCHANGE
                       RT   INTERNATIONAL PROGRAMS
                            STUDENT EXCHANGE PROGRAMS
                            STUDY ABROAD
                       INTERNATIONAL PROGRAMS
                       RT   INTERNATIONAL EDUCATIONAL EXCHANGE

  <u>Not Preferred</u>   INTERNATIONAL EDUCATIONAL EXCHANGE
                       RT   INTERNATIONAL PROGRAMS
                            STUDENT EXCHANGE PROGRAMS
                            STUDY ABROAD
                       INTERNATIONAL PROGRAMS
                       RT   INTERNATIONAL EDUCATIONAL EXCHANGE
                            STUDENT EXCHANGE PROGRAMS
                            STUDY ABROAD

  -

  <u>Preferred</u>   DISARMAMENT
                       RT   INTERNATIONAL RELATIONS
                       PEACE
                       RT   INTERNATIONAL RELATIONS

  <u>Not Preferred</u>   DISARMAMENT
                       RT   INTERNATIONAL PROGRAMS
                            INTERNATIONAL RELATIONS
                       PEACE
                       RT   INTERNATIONAL PROGRAMS
                            INTERNATIONAL RELATIONS

- Avoid improperly slanting or restricting a term. For example, PART TIME STUDENTS may be enrolled at all educational levels.

  <u>Not Preferred</u>   PART TIME STUDENTS
                       RT   ADULT STUDENTS

(3)   **RT Lists as Mini-Indexes**

There are occasional situations where abundant RTs may be useful and valid. RTs can provide mini-indexes to some of the *Thesaurus'* most general terms. This is why broad terms like BEHAVIOR, BLACKS, COLLEGES, COMMUNITY, READING, etc., acquire long RT displays. This is particularly helpful for the

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beginning *Thesaurus* user who usually has a nominal concept in mind and needs to know the various combinations in which that concept is displayed in adjectival form. It could be argued that the "Rotated Display" should be used for this purpose, but such "selective" proliferation has become standard practice in most thesauri. Additionally, the conceptual relationships among terms in these situations are often not clear-cut. For example, who would want to argue that COMMUNITY ATTITUDES and COMMUNITY ROLE have a closer conceptual relationship to COMMUNITY than COMMUNITY LEADERS and COMMUNITY SCHOOLS? It is easier and less confusing in these cases to simply list all such RT relationships under the broad, most general terms.

E. Vocabulary Development Form

The Vocabulary Development Form is provided for the convenient recording and processing of all changes to the *Thesaurus*, whether additions of new Descriptors, modifications of existing Descriptor displays, or Descriptor deletions (purges). All justification information is recorded on the form, including both authorities cited and personal contacts. Space is provided for indicating any RIE and CIJE postings changes that are necessary to keep the *Thesaurus* and postings files synchronous. Characteristics of the Vocabulary Development Form and requirements for completing it are discussed in the following paragraphs.

1. Pre-Printed Vocabulary Development Forms or Computer-Prepared Substitutes?

Thesaurus additions and changes may be prepared either on pre-printed vocabulary forms or on computer-prepared substitutes. Any computer-prepared forms used should be arranged similarly to the pre-printed forms and contain the same data elements.

The pre-printed Vocabulary Development Form (2-sided) is illustrated in Figure VIII-1-8. This is a completed version of the form, showing its use for adding a new Descriptor. The form was introduced in 1980 as part of the new Vocabulary Development Program (see item "B.3"). Its design is similar to ERIC's earlier "Descriptor Justification Form (DJF)," a version of which is shown in Figure VIII-1-ATT-1-1. The line spacing is set up for any standard typewriter, so that when the form is lined up for entry of the Main Term, it should not be necessary to adjust the typewriter subsequently.

An example of a microcomputer-prepared template of the Vocabulary Development Form (in WordPerfect 5.1) is illustrated in Figure VIII-1-9. Both a blank copy and a completed version are shown. Two additional examples of what completed VDF templates look like are shown in Attachment #2 of this section. Whether such templates are unique to a particular indexer or whether they are designed for use by everyone in a Clearinghouse, or across several Clearinghouses, is immaterial, as long as the required data elements are present.

The decision on whether to use the pre-printed form, to generate one independently, or to share one with others, is left to individual discretion.

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Receipt Date (Facility Use Only)

ERIC
VOCABULARY DEVELOPMENT FORM
FACILITY USE ONLY

ADD__	
DELETE__	
CHANGE__	
PURGE__	

† ☒ ADDING NEW TERM
* ☐ MODIFYING EXISTING TERM
† ☐ PURGING EXISTING TERM

† See reverse side of form for special instructions.
* Action Codes for Modifications Only.
   A – ADD   C – CHANGE   D – DELETE

ELITE (12 pitch) typewriters stop at first mark.
PICA (10 pitch) typewriters stop at end of block.

1. Main Term (50 Character Limit)

TERM__ MAGNET SCHOOLS

2. Group Code   Act.
GROUP__ 340   ☐

3. Scope Note/Definition (370 Character Limit)

SCOPE__ SCHOOLS OFFERING SPECIAL COURSES NOT AVAILABLE IN THE REGULAR SCHOOL CURRICULUM AND
DESIGNED TO ATTRACT STUDENTS ON A VOLUNTARY BASIS FROM ALL PARTS OF A SCHOOL DISTRICT
WITHOUT REFERENCE TO THE USUAL ATTENDANCE ZONE RULES -- OFTEN USED TO AID IN SCHOOL
DESEGREGATION

Act.

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF__ MAGNET CENTERS

JUSTIFICATION INFORMATION
(Attach additional sheets if necessary.)

A. Indexer & CH

A. Stevenson/UD
G. Chapin/UD

5. Narrower Terms

NT __

B. Supervisory Approval & Date

(signature) 5/9/79

6. Broader Terms

BT__ SCHOOLS

C. Personal Contacts
* Clearinghouse Consultation
(List CHs contacted, and indicate
agreement/disagreement, state reasons for
disagreement.)

EA agrees.

7. Related Terms

RT__ BUSING
EDUCATIONAL PARKS
FEEDER PATTERNS
NONTRADITIONAL EDUCATION
SCHOOL DESEGREGATION
URBAN SCHOOLS
VOLUNTARY DESEGREGATION

* Other Personal Contacts and Reactions

None.

(Cont'd on reverse side)

Disposition (Facility Use Only)

: Implemented   ☐ Not Implemented

☐ Awaiting Further Action

Send form to:
ERIC Processing and Reference Facility
ATTN: Lexicographer
1301 Piccard Drive, Suite 300
Rockville, MD 20850-4305

EFF-73 (6/80)

FIGURE VIII-1-8: VOCABULARY DEVELOPMENT FORM
(Example of Completed New Term Recommendation)

ERIC — VOCABULARY DEVELOPMENT FORM

D. Authorities Used
(Citations of regularly used authorities may be copied onto the form.) Each authority used should be marked as: X = Term Found, 0 = Term Not Found

- [0] Good, Dictionary of Education, 1973 [ ]
- [X] Page & Thomas, International Dictionary of Education, 1977 [ ]
- [0] NCES, Combined Glossary, 1974 [ ]
- [X] ED156915 -- "The Role of Career Education in Desegregating Schools in Large Cities" [ ]
- [ ] [ ]
- [ ] [ ]
- [ ] [ ]
- [ ] [ ]
- [ ] [ ]
- [ ] [ ]
- [ ] [ ]

E. Impact on Thesaurus
Indicate potential impact of this transaction on hierarchies and other terms in the Thesaurus. Consider, particularly, any overlap with other terms. Homographs should be qualified; occasionally, additional forms, revising older scope notes and displays, will need to be submitted in order to avoid indexing misuse.

Unambiguous. No overlap. Not a homograph.

F. Impact on Data Base
1. New Term — **SEARCH ATTACHED**

• Attach full-text search, including strategy. Do not limit the search (i.e., by Clearinghouse, by RIE or CIJE, etc.).

• List identifiers to be transferred to new term. Include all variations. It is unnecessary to also list accession numbers to which the identifiers are posted.

Magnet Schools   Russell Conwell Middle Magnet School
Magnet Centers   Magnet School Plan
Magnet Programs   Conwell Middle Magnet School
Magnet Program

• List all accession numbers to which the new term should be posted, *excluding those posted by the identifiers listed above*. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

ED016718	ED064434	*ED117206	ED145054	ED148969	*ED156915	ED178646	*EJ203973
ED019341	ED078621	ED117226	ED145058	*ED149454	ED166314	*ED181931	*EJ207708
ED041056	ED094014	ED130450	*ED146313	ED152905	ED169172		*EJ210203
*ED064125	ED116307	ED137433	ED146708	ED152912	*ED170423		

2. Purge
• Attach search.
• Show total postings:_____
• Check one: ✓
  ☐ Transfer all postings to _____
  ☐ Transfer postings to _____, excluding:
  (List accession numbers and show necessary manual reindexing for each.)

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☐ Postings are not transferable.
(Attach 2nd form for invalid/"dead" term entry, or provide manual reindexing for all postings.)

EFF-73 (6/80)

FIGURE VIII-1-8 (Side 2)

ERIC VOCABULARY DEVELOPMENT FORM

☐ Adding New Term.
☐ Modifying Existing Term.
☐ Purging Existing Term.

Action Codes for Modifications Only		
A – ADD	C – CHANGE	D – DELETE

1. TERM_
2. GROUP_
3. SCOPE_
4. UF_
5. NT_
6. BT_
7. RT_

A. INDEXER & CH:

B. SUPERVISORY APPROVAL & DATE:

C. PERSONAL CONTACTS:

CLEARINGHOUSE CONSULTATION
(List CHs contacted, and indicate agreement/disagreement; state reasons for disagreement.)

OTHER PERSONAL CONTACTS AND REACTIONS

D. AUTHORITIES USED:
X = Term Found.
O = Term Not Found.

E. IMPACT ON THESAURUS

F. IMPACT ON DATABASE
1. NEW TERM – Attach full-text search, including strategy.

List Identifiers to be transferred to new term:

List all accession numbers to which the new term should be posted, excluding those posted by the Identifiers listed above. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

2. PURGE – Attach search.

Show total postings:

Check one : ✓

☐ Transfer all postings to:

☐ Transfer postings to:
(List accession numbers and show necessary manual reindexing for each.)

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide reindexing for all postings.)

FIGURE VIII-1-9a: MICROCOMPUTER-PREPARED VOCABULARY DEVELOPMENT FORM
(EXAMPLE – BLANK)

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ERIC VOCABULARY DEVELOPMENT FORM

☑ Adding New Term.
☐ Modifying Existing Term.
☐ Purging Existing Term.

▓	Action Codes for Modifications Only
A - ADD	C - CHANGE D - DELETE

1. TERM_DRUG USE TESTING
2. GROUP_210
3. SCOPE_SCREENING FOR DRUG USE OR ABUSE BY THE QUANTITATIVE DETERMINATION OF DRUG METABOLITES IN THE BLOOD, URINE, TISSUE, ETC.
4. UF_DRUG TESTING (PRESENCE IN BODY)
5. NT_
6. BT_EVALUATION METHODS
7. RT_DRUG ABUSE;
   DRUG USE;
   ILLEGAL DRUG USE;
   PHYSICAL EXAMINATIONS

A. INDEXER & CH: Jim Houston, AA

B. SUPERVISORY APPROVAL & DATE:

C. PERSONAL CONTACTS:

   CLEARINGHOUSE CONSULTATION
   (List CHs contacted, and indicate agreement/disagreement; state reasons for disagreement.)

   OTHER PERSONAL CONTACTS AND REACTIONS

D. AUTHORITIES USED:
   X = Term Found.
   O = Term Not Found.

   X- MedLine (uses subheadings, e.g., "Substance Abuse -- Diagnosis")
   X- PsycInfo (uses "Drug Use Screening" since 1988)
   O- Sociological Abstracts
   O- Consumer Drug Information File
   O- Drug Information Fulltext
   X- Health Planning & Administration (follows MedLine)
   O- Mental Health Abstracts
   X- Nursing & Allied Health CINAHL (follows MedLine)
   O- Occupational Safety & Health NIOSH
   X- Magazine ASAP (uses "Drug Use Testing" along with subheadings)

   All above are DIALOG databases.

FIGURE VIII-1-9b: MICROCOMPUTER-PREPARED VOCABULARY DEVELOPMENT FORM
(EXAMPLE -- COMPLETED) Page 1 of 2

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E. IMPACT ON THESAURUS

"Drug Use Testing" borrowed from Magazine Index. The common usage "Drug Testing" is ambiguous; UF added to cover that form.

F. IMPACT ON DATABASE

1. **NEW TERM** - Attach full-text search, including strategy.

List Identifiers to be transferred to new term:

JUL89 Postings -   1 Drug Detection
               12 Drug Testing
                2 Drug Testing Programs
                8 Drug Use Testing
                4 Mandatory Drug Testing

List all accession numbers to which the new term should be posted, excluding those posted by the Identifiers listed above. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

EJ381970	EJ354960	EJ345800	*EJ330013	ED285449
EJ379431	*EJ352285	*EJ341512	*EJ328903	ED282327
EJ360329	*EJ350706	*EJ335263	*EJ135318	ED281304
*EJ357608	*EJ349449	*EJ334596		ED275272

2. **PURGE** - Attach search.

Show total postings:

Check one : ✓

☐ Transfer all postings to: .

☐ Transfer postings to:
(List accession numbers and show necessary manual reindexing for each.)

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide reindexing for all postings.)

FIGURE VIII-1-9b: MICROCOMPUTER-PREPARED VOCABULARY DEVELOPMENT FORM
(EXAMPLE -- COMPLETED) Page 2 of 2

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2. **Character Limitations**

In fields 1 and 4 through 7, allowable characters are limited to the following:

- Upper-case letters A-Z;
- Arabic numerals 0-9;
- Left and right parentheses ( ).

In field 2, use Arabic numerals only (3-digit Group Code).

In field 3, Scope Note/Definition, use any upper-case alphabetics, numerals, and special characters within the standard ERIC character set, <u>except for the semicolon</u> (;). Except in the case of an abbreviation, do not conclude a Scope Note with a period.

3. **Field Length**

a. **Terms**

A *Thesaurus* term, whether Descriptor or UF (Used For), may not exceed 50 characters (including spaces) in length. If a term contains more than 50 characters, it is invalid and cannot be accepted by the system.

There is no system limitation to the number of Used For terms, Narrower Terms, Broader Terms, and Related Terms that may be entered. However, practical considerations limit the number of lines that can be provided on the pre-printed Vocabulary Development Form. If more space is needed for any of these fields, additional forms should be used and marked SHEET 1 of X, SHEET 2 of X, etc. Also, enter "(CONTINUED)" on the last line of each block that is continued on a following sheet, as in the following example:

FIRST SHEET

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF_	ACADEMIC PERFORMANCE (1966 1974)	
	ACADEMIC PROGRESS	
	ACADEMIC SUCCESS	
	EDUCATIONAL ACHIEVEMENT	
	(CONTINUED)	

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FOLLOWING SHEET

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)		Act.
UF__ EDUCATIONAL LEVEL		
SCHOLASTIC ACHIEVEMENT		
STUDENT ACHIEVEMENT		

In fields 1 and 4 through 7 of the pre-printed Vocabulary Development Form (see **Figure VIII-1-6**), the distance between the underscore following the data-entry keyword and the end of the field block is sufficient to permit the entry of 50 characters and spaces with a PICA (10 characters/inch) typewriter. A vertical mark is provided on each line to mark the 50-character point for ELITE (12 characters/inch) typewriters.

b.   **Group Code**

This field is limited to three (3) numeric characters only, i.e., one Descriptor Group Code.

c.   **Scope Note**

The Scope Note/Definition field is limited to 370 characters, including spaces. The pre-printed form provides for that number of PICA characters between the end of the underscore following the keyword and the beginning of the shading on the fifth line. For ELITE typewriters, there are 370 spaces between the underscore and the vertical mark on the fifth line.

Because words may not be divided (hyphenated) at the end of lines, it is likely that some additional spaces will be available when the "end" marks are reached. Unused character spaces at the end of lines one through four can be used for continuation beyond the fifth line's end marks. In determining whether there are enough unused positions, remember that the computer system inserts a space after the last word in each line, so that if there are seven character spaces unused on a line, only six are available for carryover use.

4.   **Adding New Term**

A "✓" or "X" should be entered in the "ADDING NEW TERM" box at the top of the form's front side, as shown:

       † ▨ ADDING NEW TERM
       * ☐ MODIFYING EXISTING TERM
       † ☐ PURGING EXISTING TERM
   † See reverse side of form for special instructions.
   * Action Codes for Modifications Only.
      A - ADD C - CHANGE D - DELETE

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This reminds the indexer (preparer) to check the back of the form for special instructions and alerts the Facility Lexicographer to the purpose of the submittal.

> Note: The Action (Act.) boxes accompanying fields
> 2 through 7 are not used when adding a new term.

a.   **Main Term (Field #1)**

Candidate Descriptors should conform, in both intellectual content and format, to the rules for Main Terms, item D.2 of this section.

A candidate Descriptor is entered in field 1, as follows:

1. Main Term (50 Character Limit)

TERM_ COUNSELORS	

b.   **Group Code (Field #2)**

Each candidate Descriptor must be assigned a Group Code by the indexer submitting the form. The Group Code places the new term in one of forty-one (41) broad subject categories called Descriptor Groups. A listing of the Descriptor Groups and Group Codes, and guidelines for selecting the one proper group for a new Descriptor, may be found in the rules for Descriptor Groups, item D.3 of this section.

The selected 3-digit Group Code is entered in field 2, as follows:

2. Group Code   Act.

GROUP_ 240	

c.   **Scope Note/Definition (Field #3)**

Most new terms require accompanying Scope Notes. Absence of a Scope Note for a new term must be justified. Most information retrieval thesauri employ Scope Notes to restrict usage of potentially ambiguous terms. Because of the inherent "softness" or imprecision of educational terminology and its overlap across many fields of study, ERIC carries definitional Scope Notes on all terms whose meanings are not self-evident. ERIC's Scope Notes should not be construed as formal definitions, but as indicators of how terms are (or should be) used in indexing. Instructional notations frequently are part of Scope Notes. These notations direct the *Thesaurus* user to other terms, indicate proper coordination, provide historical notes on changes in usage or cross-reference structure, or otherwise guide and explain preferred usage for both indexing and searching.

Scope Notes should be written in accordance with the guidelines and rules of item D.4 of this section, as well as the following:

- Scope notes should be succinct. Keep the length of a Scope Note to the minimum consistent with clarity. Maximum length is 370 characters.

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● While the system will accept lower case alphabetic characters, Scope Notes should be entered in all upper case to maintain consistency with existing entries.

● Be sure to examine the existing Scope Notes of related terms and other terms having the same component words as the candidate Descriptor. Don't "re-invent the wheel" when it is possible to borrow or adapt the work done by others.

● In preparing Scope Notes for new Descriptors, it is necessary to project the possible future applications of the concept in different contexts—to move beyond the applications found in existing documents and articles to consider the potential development, expansion, or refinement of the concept in future years. Dictionaries and other authorities serve as checks against unnecessary restriction of a Descriptor's scope that might inhibit future applications.

● A minimum of three authorities must be cited for each definitional Scope Note prepared. More are desirable. It is strongly recommended that wherever a number of subject-specialized authorities exist, i.e., those directly relevant to the subject area or topic at hand, as many as possible should be consulted. All authorities consulted should be listed on the back side of the input form (block "D"), whether or not they contributed elements to a Scope Note or helped in its justification or support. The check marks X for "term found" and Q for "term not found" (see block "D"), inform the Lexicographer that a particular authority was taken into consideration.

● As an aid to lexicographic analysis, submit copies of all definitions utilized in the wording of a Scope Note when these may not be readily available to the Lexicographer, e.g., pages from journal articles. Mark the appropriate passages. (If a microfiche reader/printer is not available and ERIC documents are cited, submit the ED number and the page or frame number.)

The Scope Note is entered in field 3, as follows:

1. Main Term (50 Character Limit)		2. Group Code	Act.
TERM_ LIBRARY SCIENCE		GROUP_ 710	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ STUDY AND PROFESSION OF THE ADMINISTRATION OF LIBRARIES AND THEIR CONTENTS -- INCLUDES THE
PROCEDURES BY WHICH LIBRARIES RECOGNIZE, ACQUIRE, ORGANIZE, DISSEMINATE, AND UTILIZE INFORMATION

		Act.

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1. Main Term (50 Character Limit)

TERM_	OUT OF SCHOOL YOUTH		2. Group Code	Act.
			GROUP_ 510	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ CHILDREN OF COMPULSORY SCHOOL AGE WHO HAVE BEEN EXCUSED FROM ATTENDING SCHOOL, OR

ADOLESCENTS OVER 16 YEARS OF AGE WHO ARE OUT OF SCHOOL LEGALLY (NOTE: COORDINATE WITH AN

APPROPRIATE AGE OR EDUCATIONAL LEVEL DESCRIPTOR)

Act.

---

1. Main Term (50 Character Limit)

TERM_	SECOND LANGUAGES		2. Group Code	Act.
			GROUP_ 450	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ ANY LANGUAGES OTHER THAN ONE'S NATIVE OR MOTHER TONGUE, USUALLY LEARNED BY FORMAL

INSTRUCTION (NOTE: PRIOR TO MAR80, THE INSTRUCTION "FOREIGN LANGUAGES, USE LANGUAGES" WAS CARRIED

IN THE THESAURUS)

Act.

---

1. Main Term (50 Character Limit)

TERM_	WIND (METEOROLOGY)		2. Group Code	Act.
			GROUP_ 490	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ THE NATURAL MOTION OF AIR (NOTE: DO NOT CONFUSE WITH "AIR FLOW")

Act.

---

d.   Cross-References (Fields #4 - #7)

Necessary cross-references must accompany all new term recommendations. The Vocabulary Development Form carries these cross-references in the same order that they are found in the *Thesaurus*, thereby minimizing confusion both in structuring and evaluating a recommended display. ERIC uses the standard cross-references found in most contemporary information retrieval thesauri—compatible with those recommended by the American National Standard *Guidelines for the Construction, Format, and Maintenance of Monolingual Thesauri*

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(ANSI/NISO Z39.19-199X).[*] These cross-references include the following:

(1)   Used For (UF) Terms

See rules for UF (Used For)/USE References, item D.5.

A UF reference is a synonym or variant form of the main term and is not used in indexing. Its mandatory reciprocal is the USE reference. UFs are entered in field 4, as in this example:

1. Main Term (50 Character Limit)

TERM_ COMPUTER SOFTWARE DEVELOPMENT	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF_ COMPUTER SOFTWARE DESIGN		
COMPUTER SOFTWARE ENGINEERING		
COMPUTER SOFTWARE MAINTENANCE		
COURSEWARE DEVELOPMENT #		
SOFTWARE DEVELOPMENT (COMPUTERS)		

The fourth entry in this example is followed by a pound sign (#), indicating a multiple UF and signifying that two or more main terms must be coordinated in order to index or retrieve that concept. Multiple UFs must be entered under each main term to be used in the coordination. In the above instance, a second Vocabulary Development Form is required, as follows:

1. Main Term (50 Character Limit)

TERM_ COURSEWARE	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF_ COURSEWARE DEVELOPMENT #		

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(2)   **Narrower Terms (NT)**

See rules for <u>Narrower Terms</u> (and Broader Terms), item D.6.

The NT represents an indexable subclass of the concept represented by the main term; the indexable NT achieves ERIC's goal of "subject-specific" indexing. Its mandatory reciprocal is the "Broader Term." NTs are entered in field 5, as in the following example:

1. Main Term (50 Character Limit)

TERM_	MATHEMATICS		

5. Narrower Terms   Act.

NT_	ALGEBRA	
	ARITHMETIC	
	CALCULUS	
	GEOMETRY	
	PROBABILITY	
	STATISTICS	
	TECHNICAL MATHEMATICS	
	TRIGONOMETRY	

NTs are entered only at the next lower level of hierarchy. Terms such as ADDITION (NT to ARITHMETIC) and SOLID GEOMETRY (NT to GEOMETRY) are <u>NOT</u> entered in the case above.

Particular care must be taken, when inserting a new term into the midst of an existing hierarchical string, to remove existing generic references and thereby avoid incorrect double entries. See item E.5.e.(3) for an explanation of how to deal with this problem.

(3)   **Broader Terms (BT)**

See rules for <u>Broader Terms</u> (and Narrower Terms), item D.6.

The BT represents the broad conceptual class into which a main term is placed. Each Broader Term is an indexable concept and the mandatory reciprocal of an NT. BTs are entered in field 6,

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as follows:

1. Main Term (50 Character Limit)

TERM_	PHYSICIANS		

6. Broader Terms | | | | Act. |

BT_	HEALTH PERSONNEL		
	PROFESSIONAL PERSONNEL		

BTs are entered only at the next higher level of hierarchy. PERSONNEL, the BT to both HEALTH PERSONNEL and PROFESSIONAL PERSONNEL, is NOT entered in the above example. To do so would create the "invalid hierarchy" seen below. Illustrated also is the correct hierarchy in which PHYSICIANS appears twice; this is legitimate since there is no direct hierarchical relationship between HEALTH PERSONNEL and PROFESSIONAL PERSONNEL.

INVALID HIERARCHY	CORRECT HIERARCHY
PERSONNEL	**PERSONNEL**
.Health Personnel	.Health Personnel
..Physicians	..Physicians
.Physicians	.Professional Personnel
.Professional Personnel	..Physicians
..Physicians	

(4)   **Related Terms (RT)**

See rules for Related Terms, item D.7.

The RT is an indexable concept that is closely associated with a main term, but is neither equivalent (UF/USE) nor hierarchical (NT/BT). Part-whole relationships, near-synonyms, and other conceptually related terms, of obvious benefit to indexers and searchers, appear as RTs. RTs are reciprocally related in the *Thesaurus*. They are entered in field 7, as shown below:

1. Main Term (50 Character Limit)

TERM_	AGENDA SETTING		

7. Related Terms | | | | Act. |

RT_	AUDIENCE ANALYSIS		
	AUDIENCE RESPONSE		
	BIAS		
	COMMUNICATION (THOUGHT TRANSFER)		

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FREEDOM OF INFORMATION	
INFORMATION DISSEMINATION	
INFORMATION SOURCES	
MASS MEDIA	
MASS MEDIA EFFECTS	
MASS MEDIA ROLE	
NEWS MEDIA	
NEWS REPORTING	
PERSUASIVE DISCOURSE	
POLICY FORMATION	
POLITICAL INFLUENCES	
PRESS OPINION	
PUBLIC OPINION	

Only relatively close relationships need be cross-referenced as RTs, and unnecessary proliferation should be avoided. See the guidelines in item D.7 on avoiding RT proliferation.

e. **Special Note on Cross-Reference Reciprocals**

It is not necessary for the preparer of a Vocabulary Development Form to generate cross-reference reciprocals, as this is done automatically by the ERIC *Thesaurus* software. Examples of this capability follow:

ENTERED VIA FORM	GENERATED VIA COMPUTER

MANAGEMENT GAMES
  UF BUSINESS GAMES
	BUSINESS GAMES
	  USE MANAGEMENT GAMES

INTERACTION
  NT GROUP DYNAMICS
	GROUP DYNAMICS
	  BT INTERACTION

SPEECH
  BT LANGUAGE ARTS
	LANGUAGE ARTS
	  NT SPEECH

NEIGHBORHOODS
  RT SUBURBS
	SUBURBS
	  RT NEIGHBORHOODS

Of the examples in the right column, only the USE reference cannot also be entered via the Vocabulary Development Form. (USE references can only be generated reciprocally via the entry of a UF.) Even if a computer-generated NT, BT, or RT is also input inadvertently with a form, the *Thesaurus* software prevents invalid double entry of a term in a single

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field.

However, the software does not detect invalid cross-referencing of the same term in different fields (i.e., the same term could be filed both as an NT and BT, NT and RT, or BT and RT). In fact, a term can be cross-referenced with itself. Obviously, care must be taken to avoid these illogical relationships.

The software also prevents an existing UF from being filed as a main term, and vice versa; therefore, the above problem of double filing across fields does not extend to the UFs.

5.   **Modifying Existing Term**

After a Descriptor has been entered into the *Thesaurus* file, it may be necessary to correct errors or omissions in its cross-references or to reflect subsequent changes in its application. Modifications to an existing term's Group Code, Scope Note, and/or cross-references may be made by entering a '✓' or 'X' in the "MODIFYING EXISTING TERM" box at the top of the Vocabulary Development Form's front side, as shown:

> † ☐ ADDING NEW TERM
> * ▨ MODIFYING EXISTING TERM
> † ☐ PURGING EXISTING TERM
> † See reverse side of form for special instructions.
> * Action Codes for Modifications Only.
> A - ADD   C - CHANGE   D - DELETE

This reminds the indexer (preparer) to use the Action Codes A, C, and D for recommending specific changes and alerts the Facility Lexicographer to the purpose of the submittal.

For all *Thesaurus* modifications, the preparer should indicate the main term and ONLY those elements of the term's display that he/she wishes to change. Elements not being changed should NOT be shown.

a.   **Action Codes**

Action Codes are provided for the convenience of the preparer, permitting all add, change, and delete modifications recommended for a single Descriptor to be recorded on one Vocabulary Development Form. (In actuality, the *Thesaurus* system requires separate transactions for the add, change, and delete commands, and combinations of these must be separated and sequenced by the Lexicographer, as appropriate, before implementation.)

The Action (Act.) boxes on the form are used to record Action Codes. Use of each of the three (3) codes is described below.

(1)   **Add**

The code for adding an element to a term's display is the letter A. This indicates that the coded item is to be entered in an empty field, or, if there are already entries in the field, that the coded item is to be added to these. The A code is most frequently used in the cross-reference fields (fields 4 through 7). It should be used in

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recommending a Scope Note (field 3) only when that field is not currently occupied. It cannot be used for a Group Code (field 2), since that field is never empty and accommodates a single code only.

(2)   Delete

The code for deleting an element from a term's display is the letter D. This indicates that the coded item is to be deleted from the field it occupies. The D code is most useful for recommending the deletion of a specific cross-reference (fields 4 through 7). It can also be used to recommend the elimination of an existing Scope Note (field 3), when it has been determined that the Scope Note is unnecessary. It cannot be used for a Group Code (field 2).

(3)   Change

The code for changing an entire existing field is the letter C. This indicates that ALL data existing in a particular field is to be removed and replaced with the new data provided on the Vocabulary Development Form. The C code is used most often to change a Group Code (field 2) or a Scope Note (field 3). However, it may also be used to recommend _complete_ changes in cross-reference fields (fields 4 through 7), i.e., when the recommended changes are so extensive that it is easier to enter the result desired than to treat each entry separately. When using the C code, it is important to remember that ALL information that is to appear in the field must be included on the input form.

b.   Group Code Changes

Recommended Group Code changes are entered using the C code. (A and D codes are never used for Group Code changes.) Example:

1. Main Term (50 Character Limit)		2. Group Code	Act.
TERM_ MICROCOUNSELING		GROUP_ 240	C

c.   Scope Note Changes

The A code is used to recommend a Scope Note when one did not previously exist. Example:

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1. Main Term (50 Character Limit)		2. Group Code	Act.
TERM_ PREREADING EXPERIENCE		GROUP_	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ PRESCHOOL INCIDENTAL LEARNING THAT PREPARES CHILDREN FOR READING (NOTE: USE "READING
READINESS" FOR FORMAL PREREADING TRAINING -- PRIOR TO SEP80, THE USE OF THIS TERM WAS NOT RESTRICTED
BY A SCOPE NOTE)

		Act.	A

The C code is used to recommend the replacement of an existing Scope Note with a new Scope Note (provided on the form). Example:

1. Main Term (50 Character Limit)		2. Group Code	Act.
TERM_ PROJECTS (1966 1980)		GROUP_	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ INVALID DESCRIPTOR -- SEE "PROGRAMS" AND ITS HIERARCHY (I.E., NARROWER TERMS "RESEARCH
PROJECTS," "PILOT PROJECTS," ETC.)

		Act.	C

The D Code recommends that the Scope Note on the form be expunged from the file. Example:

1. Main Term (50 Character Limit)		2. Group Code	Act.
TERM_ ART TEACHERS		GROUP_	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ TEACHERS OF ONE OR MORE OF THE VISUAL ARTS

		Act.	D

d.   Used For (UF) Changes

Nonpostable "synonyms," i.e., USE references, may not be entered directly. The addition of a USE reference must be accomplished by submitting a form on the main term to which it will be cross-referenced. If, for example, it is desired to provide the entry MIDLIFE, USE MIDDLE AGED ADULTS, a form would be submitted as follows:

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1. Main Term (50 Character Limit)

TERM_	MIDDLE AGED ADULTS	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

UF_	MIDLIFE		Act. A

The deletion of a USE reference is accomplished as follows:

1. Main Term (50 Character Limit)

TERM_	AUTO MECHANICS	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)

UF_	SMALL ENGINE MECHANICS		Act. D

If a USE reference is to be made a main term, a separate form deleting the USE reference must accompany the form for the new Descriptor. Also, the new Descriptor should be identified in its Scope Note as a former USE reference (see item C.1.e.(4)).

In adding or deleting "multiple UFs," a separate Vocabulary Development Form must be prepared for each Descriptor used (or to be used) in the coordination. Additionally, each entry of a multiple UF on the forms must be followed by the pound sign (#).

e. Hierarchical (NT/BT) Changes

Extreme care should be exercised in making changes to Narrower and Broader Terms to ensure that hierarchical validity is maintained. The following examples will illustrate some of the problems that can occur and how they can be solved.

(1) Broader Term (BT) Changes

Assume that the term MEDICAL ASSISTANTS has the two BTs HEALTH PERSONNEL and PARAPROFESSIONAL PERSONNEL. Upon examination, it is determined that ALLIED HEALTH PERSONNEL would be the more appropriate BT,

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allowing the existing BTs to be deleted since both appear in the ALLIED HEALTH PERSONNEL display. The required changes would be entered as follows:

1. Main Term (50 Character Limit)

TERM_	MEDICAL ASSISTANTS	

6. Broader Terms | | | Act. |

BT_	ALLIED HEALTH PERSONNEL		A
	HEALTH PERSONNEL		D
	PARAPROFESSIONAL PERSONNEL		D

Note that HEALTH PERSONNEL, BT to ALLIED HEALTH PERSONNEL, must be deleted to prevent an invalid double appearance of MEDICAL ASSISTANTS in the hierarchy. In the example, the same end result could have been accomplished as follows:

1. Main Term (50 Character Limit)

TERM_	MEDICAL ASSISTANTS	

6. Broader Terms | | | Act. |

BT_	ALLIED HEALTH PERSONNEL		C

Since the Change transaction first clears the field and then replaces it with the new information, it is not necessary to enter specific Deletes for HEALTH PERSONNEL and PARAPROFESSIONAL PERSONNEL.

(2)   Narrower Term (NT) Changes

Assume that examination of the NTs for STUDENTS shows that STUDENT VOLUNTEERS has been omitted from the list, and that STUDENT-TEACHERS erroneously carries both COLLEGE STUDENTS and STUDENTS as BTs. The required changes would be entered as follows:

1. Main Term (50 Character Limit)

TERM_	STUDENTS	

5. Narrower Terms | | | Act. |

NT_	STUDENT TEACHERS		D
	STUDENT VOLUNTEERS		A

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In this case, the Change transaction would not be used because of the large number of terms in this field that are being retained (i.e., not being changed). The result could, of course, have been accomplished by Broader Term changes to STUDENT TEACHERS and STUDENT VOLUNTEERS, but this would have required two input forms. Without additional modifications taking place, the above approach would be preferred.

(3)   **Hierarchical Insertions**

When a new term is inserted in the middle of an existing hierarchical string, it is usually necessary to prepare a second Vocabulary Development Form in order to prevent invalid double entries in the hierarchy. For example, assume it becomes desirable to collect several of the NTs to AFRICAN LANGUAGES under a new Descriptor MANDE LANGUAGES. The NT/BT structure of the new term might be as follows:

1. Main Term (50 Character Limit)

TERM_	MANDE LANGUAGES	

5. Narrower Terms — Act.

NT_	DYULA		
	MANDINGO		
	MENDE		
	SUSU		

6. Broader Terms — Act.

BT_	AFRICAN LANGUAGES		

If only this addition was made to the *Thesaurus* file, all of the NTs to MANDE LANGUAGES would show both that Descriptor and AFRICAN LANGUAGES as BTs, creating improper double references in the hierarchical display of AFRICAN LANGUAGES. Therefore, a second input form modifying AFRICAN LANGUAGES must accompany the one adding the new term. The modification, in this case, would appear as follows:

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1. Main Term (50 Character Limit)

TERM_	AFRICAN LANGUAGES	

5. Narrower Terms

			Act.
NT_	DYULA		D
	MANDINGO		D
	MENDE		D
	SUSU		D

f.   Related Term (RT) Changes

Recommendations for RT changes can be made by adding and/or deleting terms from the field as necessary.

1. Main Term (50 Character Limit)

TERM_	VICTIMS OF CRIME	

7. Related Terms

			Act.
RT_	DEATH		D
	MALPRACTICE		A
	PATIENTS		D
	REHABILITATION		A
	WAR		D

However, use of the Change transaction is advisable if extensive modifications are recommended:

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1. Main Term (50 Character Limit)

TERM_	DESIGN CRAFTS		

7. Related Terms   Act.

RT_	CERAMICS		C
	CLOTHING DESIGN		
	CRAFT WORKERS		
	DESIGN		
	FURNITURE DESIGN		
	HANDICRAFTS		
	INDUSTRIAL DESIGN		
	SKILLED OCCUPATIONS		

g.   "Across-Field" Modifications

Care should be taken to avoid invalid double cross-references when moving terms between fields. Before cross-references are added to a field, each should be checked to assure they are not retained in another field. Across-field modifications can be entered on the same input form, as follows:

1. Main Term (50 Character Limit)

TERM_	INFORMATION DISSEMINATION		

6. Broader Terms   Act.

BT_	INFORMATION SERVICES		A
	INFORMATION UTILIZATION		D

7. Related Terms   Act.

RT_	INFORMATION SERVICES		D
	INFORMATION UTILIZATION		A

6.   Purging Existing Term

A "purge" is used for recommending the total discontinuance of an indexable term. A "✓" or "X" should be entered in the "PURGING EXISTING TERM" box at

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the top of the Vocabulary Development Form's front side:

```
†☐ ADDING NEW TERM
·☐ MODIFYING EXISTING TERM
†☒ PURGING EXISTING TERM
† See reverse side of form for special instructions.
· Action Codes for Modifications Only.
  A - ADD  C - CHANGE  D - DELETE
```

This reminds the indexer (preparer) to check the back of the form for special instructions and alerts the Facility Lexicographer to the purpose of the submittal.

After checking the purge box, the term to be purged is entered in Field #1, the "main term" line. Fields 2 through 7 are NOT used when purging a term. Example:

1. Main Term (50 Character Limit)	2. Group Code	Act.
TERM_ DRAFTERS	GROUP_	

No other elements need be entered because a "purge" command automatically deletes a term's complete display and all of its reciprocal cross-references from the *Thesaurus* file.

Descriptor purges are based on, and necessitated by, one of two factors:

(1) changes occurring in the literature of the system;

(2) situations of ambiguity, synonymity, and inutility discovered in the vocabulary.

Because purges have an immediate and significant impact on searching, a decision on what to do with a term's existing postings must accompany all purge recommendations. The following alternatives are available, but, before considering them, the indexer should be familiar with the guidelines for Former Main Terms, item D.2.e of this section.

a.   Transfer to New Term

This alternative is used for word form corrections, including the replacement of obsolete, incorrect, or unnecessarily specific terminology.

Examples: Transfer postings on CEREBRAL DOMINANCE
to (new term) BRAIN HEMISPHERE FUNCTIONS

Transfer postings on MANPOWER DEVELOPMENT
to (new term) LABOR FORCE DEVELOPMENT

Transfer postings on NAVAHO
to (new term) NAVAJO

Transfer postings on WATER POLLUTION CONTROL
to (new term) WATER POLLUTION

Each of the above situations involves the creation of a new Descriptor, and two Vocabulary Development Forms are required to complete each transaction. In most cases, the need for purging a Descriptor and

transferring its postings to a new word form can be demonstrated in an examination of the titles posted to the concept. Database searches should be conducted to statistically test the validity of such changes. (Relying on one's indexing experience is not enough.) Statistical evidence and available supporting evidence from authorities should be gathered and submitted on the back of, or attached to, the Vocabulary Development Forms. Justification should include comments on the equivalency of the old and new expressions, and on shifts in emphasis and meaning.

Transferred Descriptors must be identified in the *Thesaurus* by parenthetical "life span" notations, e.g., "(1966 1980)." They are entered as UFs to the Descriptors to which they are transferred. Using the first example above, the Vocabulary Development Form for the new term BRAIN HEMISPHERE FUNCTIONS would include the following entries:

1. Main Term (50 Character Limit)

TERM_	BRAIN HEMISPHERE FUNCTIONS		

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF_	CEREBRAL DOMINANCE (1967 1986)			
	HEMISPHERIC SPECIALIZATION (BRAIN)			

The UF HEMISPHERIC SPECIALIZATION (BRAIN) is a "carryover" from the former Descriptor CEREBRAL DOMINANCE.

(See also "Transferred Descriptors" discussion under "UF (Used For)/USE References," item D.5 of this section.)

b.   **Simple Merge**

This alternative is used for the merging of synonyms, of near-synonyms (where one is not warranted or where the terms are synonymous for purposes of retrieval), and of very lightly posted terms.

> Examples: Transfer postings on TEACHER RATING
> to TEACHER EVALUATION
>
> Transfer postings on UNEMPLOYED
> to UNEMPLOYMENT
>
> Transfer postings on GIRLS CLUBS
> to YOUTH CLUBS

"Simple merge" transactions also require two Vocabulary Development Forms, one to first purge the unwanted term and a second to update the display of the retained term. The form for the retained (receiving) Descriptor should include a "life span" UF for the deleted term (see example

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of BRAIN HEMISPHERE FUNCTIONS and CEREBRAL DOMINANCE in the previous section), any of the deleted term's UFs that are needed to maintain access, and any other cross-reference or Scope Note modifications that are needed to reflect conceptual changes stemming from the transfer. Copies of subject index pages, printouts of searches, and evidence from authorities should be attached to the input forms to demonstrate the usefulness of such changes. In the justification, the indexer should explain the retention/deletion decision and comment on the following as appropriate:

- statistical effect of the merger on future postings;

- any distinguishing differences in meaning or usage between the terms; and

- possibilities for separate retrieval by computer where differences exist.

(See also discussion on synonymity, "Is It a Synonym?," item C.1.d of this section.)

(SPECIAL NOTE: The mere fact of infrequent use is not an adequate justification for purging a lightly posted term. Unless lightly posted terms can be transferred to other meaningful Descriptors without information loss, it is usually best to leave them alone.)

c. **Multiple Merge**

This alternative is used to eliminate multiple synonyms or to gather several lightly posted NTs under an existing or new BT.

Examples: Transfer postings on FOOD SERVICE INDUSTRY, FOOD SERVICE OCCUPATIONS, and FOOD SERVICE WORKERS to FOOD SERVICE

Transfer postings on GROUPING PROCEDURES, SORTING PROCEDURES, TAXONOMY, and TYPOLOGY to CLASSIFICATION

A separate Vocabulary Development Form is required for each term involved in a multiple merge transaction, whether being purged or retained. As with alternatives "a" and "b" above, "life span" UFs must be included on the forms of the retained Descriptors, as well as necessary "carryover" cross-references and other data from the deleted displays. Justification should include statistical evidence from the postings and definitional/structural evidence from authorities.

d. **Term Split**

This alternative allows the transfer of low-use terms to two (or more) more general terms, when a one-to-one transfer (either to a BT or RT) would result in information loss. The receiving terms can then be coordinated to retain specificity.

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Examples: Transfer COMMUNITY SCHOOL DIRECTORS
to ADMINISTRATORS and COMMUNITY SCHOOLS

Transfer AFTER SCHOOL TUTORING
to AFTER SCHCOL EDUCATION and TUTORING

Transfer BOOK THEFTS
to BOOKS and STEALING

Again, a separate Vocabulary Development Form must be prepared for each term involved. However, this type of transaction requires that the UF for the purged Descriptor be entered as a new "multiple UF," as in the following example:

1. Main Term (50 Character Limit)

TERM_	AFTER SCHOOL EDUCATION	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF_	AFTER SCHOOL TUTORING (1966 1980) #		A

1. Main Term (50 Character Limit)

TERM_	TUTORING	

4. Used For (i.e., Synonyms and Other Nonpreferred Terms)   Act.

UF_	AFTER SCHOOL TUTORING (1966 1980) #		A

(Note that on both input forms, the A action code was used because the receiving terms are existing Descriptors.)

(See discussion on "Multiple UFs" in item D.5.e of this section.)

In justifying "term splits," the preparer should comment on other alternatives for transfer and the reasons for wanting the "multiple UF," the appropriateness of the postings to each of the recipient terms, and the effects of the "multiple UF" on manual retrieval.

e.   **Postings Split**

This alternative is used when an existing term has been employed for different concepts, either because it is a homograph or because of indexing

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misuse.

Examples: Transfer postings on FRESHMEN
to either COLLEGE FRESHMEN or
HIGH SCHOOL FRESHMEN

Transfer postings on ANIMAL SCIENCE
to either ANIMAL HUSBANDRY or ZOOLOGY

Every "postings split" requires some manual reindexing. Before this can occur, however, the postings for each indexable meaning of a "split" must be isolated. For example, the records posted to FRESHMEN would need to be separated into at least two sets—those pertaining to COLLEGE FRESHMEN and those pertaining to HIGH SCHOOL FRESHMEN. Computer searching is required for isolating these sets; the following search strategies might be employed:

Set #1—COLLEGE FRESHMEN

FRESHMEN and (HIGHER EDUCATION or TWO YEAR
COLLEGES or COLLEGE STUDENTS or TWO YEAR
COLLEGE STUDENTS)

Set #2—HIGH SCHOOL FRESHMEN

FRESHMEN and (HIGH SCHOOLS or JUNIOR HIGH
SCHOOLS or HIGH SCHOOL STUDENTS or JUNIOR
HIGH SCHOOL STUDENTS or GRADE 9)

The possibility of some records that pertain to multiple subsets of meaning (in this example, to both Set #1 and Set #2) should not be overlooked, i.e.:

Set #3—Both COLLEGE FRESHMEN and HIGH SCHOOL FRESHMEN

(Set #1 Results) and (Set #2 Results)

Since the precision of search "hits" is dependent on the search strategy employed, as well as the original indexing, it is always best to "eyeball" the individual records in each set to ensure their accuracy. Once this check and necessary adjustments are made, the preparer of the Vocabulary Development Form can list his/her recommendations for manual reindexing. This may be done on the back of the form (under the check box that reads "transfer postings to_____, excluding:_____") or on the copy of the search submitted with the form.

Assume that the three searches on FRESHMEN produced the following numbers of hits: 100 in Set #1, 40 in Set #2, and 10 in Set #3. Sets #2 and #3 have fewer hits and are, therefore, the logical choices in this example for manual reindexing. Thus, FRESHMEN needs to be deleted from, and HIGH SCHOOL FRESHMEN added to, each record in Sets #2 and #3. Other indexing errors and inconsistencies in these records could, of course, be recommended as well. Four sets of transactions are normally required for manual reindexing: Delete EDs, Delete EJs, Add EDs, and Add EJs. An example for each set is given below:

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```
DELETE   EDxxxxx
DESC_Freshmen

DELETE   EJxxxxx
DESC_Freshmen; High School Students

ADD   EDxxxxx
DESC_High School Freshmen

ADD   EJxxxxx
DESC_*High School Freshmen; High Schools
IDEN_Florida; *As You Like It
```

Delete transactions need not show whether a term is major or minor, i.e., preceded or not preceded by an asterisk (*); all asterisks are ignored by the Delete transaction process. Add transactions, on the other hand, must include the asterisk if the Descriptor (or Identifier) is to be a major term in the reindexed record. In the above examples, HIGH SCHOOL FRESHMEN will be a minor Descriptor in the ED (RIE) record and a major Descriptor in the EJ (CIJE) record. Terms other than FRESHMEN and HIGH SCHOOL FRESHMEN in these examples represent typical additional reindexing recommendations desired by the reviewer (preparer of the Vocabulary Development Form).

All recommended manual reindexing is reviewed by the Facility lexicographic staff and, when approved, is keyed, proofed, and released to the ERIC master files. Continuing with the example of FRESHMEN, once manual reindexing for the 50 hits of Sets #2 and #3 is accomplished, the remaining 100 hits in Set #1 can be updated using ERIC's "Transfer-and-Delete" program. This program requires only one transaction to remove FRESHMEN from the 100 remaining records and to add COLLEGE FRESHMEN to each, while retaining major/minor designators intact.

All manual reindexing recommendations for postings splits should accompany the Vocabulary Development Forms submitted for the terms to be purged. Additional forms are required to retain the transferred Descriptors as USE references. Terms whose postings are split should be entered as USE references in one of two ways:

- A 'split" homograph is entered as a UF under all of the other Descriptors that were used to break down its postings and multiple meanings. Split homographs carry parenthetical life span notations as other transferred Descriptors do. Additionally, however, each must carry a second qualifier that will limit its meaning to the particular context of the main term or Descriptor under which it is entered. The following examples show the ultimate disposition of the split homograph FRESHMEN:

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Indexer-Generated UFs
(entered on Vocabulary
Development Forms)

Computer-Generated
Reciprocals

```
COLLEGE FRESHMEN
     UF   FRESHMEN (1967 1980)
          (FIRST YEAR COLLEGE
          STUDENTS)
```

```
FRESHMEN (1967 1980)
(FIRST YEAR COLLEGE
STUDENTS)
     USE   COLLEGE FRESHMEN
```

```
HIGH SCHOOL FRESHMEN
     UF   FRESHMEN (1967 1980)
          (GRADE 9)
```

```
FRESHMEN (1967 1980)
(GRADE 9)
     USE   HIGH SCHOOL FRESHMEN
```

Definitional qualifiers for split homographs always follow the life span notations. This structure is used because such qualifiers were not part of the original Descriptors. (Qualifiers that were part of original Descriptors precede the life span notations.)

● Purged terms whose postings are split because of misuse in indexing should normally be carried as single or multiple UFs under those Descriptors that best reflect how the purged terms should have been used (had they been used correctly). The purged Descriptor ANIMAL SCIENCE is an example of this situation.

ANIMAL SCIENCE is a branch of agriculture concerned with "the breeding and husbandry of agricultural animals, and the production, processing, and distribution of agricultural animal products" (Classification of Instructional Programs, National Center for Education Statistics, 1991). It had been structured in the AGRICULTURE hierarchy of the ERIC *Thesaurus* and should have been used exclusively in that sense. Its usage by indexers for the biological science of ZOOLOGY is not supported by lexicographic authorities nor by the educational literature. ANIMAL SCIENCE, therefore, cannot be considered as a "split" homograph, although its former postings were split between ANIMAL HUSBANDRY and ZOOLOGY. Only one USE reference presently appears in the *Thesaurus* to indicate the existence of this former Descriptor, i.e.:

```
ANIMAL HUSBANDRY
     UF   ANIMAL SCIENCE
          (1967 1980)
```

```
ANIMAL SCIENCE (1967 1980)
     USE   ANIMAL HUSBANDRY
```

This single USE reference may not tell the whole story of this former Descriptor's usage, but additional *Thesaurus* entries for the term are not justified by either authorities or the literature.

f.   "Dead" or Invalid Term Option

This option is used for purging unwanted Descriptors that, because of inconsistent usage over time, are not readily transferrable. "Dead term" status puts a hold on former Descriptors, preventing their further use in indexing and allowing them to be set aside for examination and possible reindexing at a later date.

A minimum input of two Vocabulary Development Forms is required. One form is used for the purge transaction (see back of form for check box

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that reads "postings are not transferrable"). The term is then reentered on the second form as an invalid/"dead" Descriptor, e.g.:

† ⊠ ADDING NEW TERM
• ☐ MODIFYING EXISTING TERM
† ☐ PURGING EXISTING TERM

1. Main Term (50 Character Limit)

TERM_   READING LEVEL (1966 1980)

2. Group Code

GROUP_ 460

Act.

3. Scope Note/Definition (370 Character Limit)

SCOPE_ INVALID DESCRIPTOR – USED FOR BOTH THE READING LEVEL OF PEOPLE AND THE READABILITY LEVEL OF

MATERIALS – SEE "READING ACHIEVEMENT" AND "READABILITY" RESPECTIVELY FOR THESE CONCEPTS

Act.

Since their postings have not been transferred, invalid Descriptors are reentered as main terms rather than as UFs. Like transferred Descriptors, invalid Descriptors carry life span notations, which indicate the period of time these terms were used in indexing, make their "dead" status easily identifiable in all *Thesaurus* displays, and effectively prevent their further use in indexing. Also, like other main terms, invalid Descriptors are assigned to one of the Descriptor Groups and carry Scope Notes intended to lead indexers and searchers to more precise or meaningful terminology. Unlike other main terms, however, invalid Descriptors carry none of the standard *Thesaurus* cross-references (i e., no UFs, NTs, BTs, nor RTs). (See item E.4, parts a, b, and c of this section for additional information.)

Although invalid Descriptors carry no standard cross-references, retrieval considerations sometime necessitate a reference to an invalid Descriptor in a preferred term's Scope Note. In the case of READING LEVEL, two additional Vocabulary Development Forms were prepared and submitted for this purpose, as follows:

1. Main Term (50 Character Limit)

TERM_   READABILITY

2. Group Code

GROUP_

Act.

3. Scope Note/Definition (370 Character Limit)

SCOPE_ THE QUALITY OF READING MATTER THAT MAKES IT INTERESTING AND UNDERSTANDABLE TO THOSE FOR

WHOM IT IS WRITTEN (NOTE: PRIOR TO JUN80, "READING DIFFICULTY" AND "READING LEVEL" WERE OCCASIONALLY

USED TO INDEX THIS CONCEPT)

Act. C

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1. Main Term (50 Character Limit)

TERM_	READING ACHIEVEMENT		2. Group Code	Act.
			GROUP_	

3. Scope Note/Definition (370 Character Limit)

SCOPE_ LEVEL OF ATTAINMENT IN ANY OR ALL READING SKILLS, USUALLY ESTIMATED BY PERFORMANCE ON A TEST

(NOTE: PRIOR TO JUN80, "READING LEVEL" WAS OCCASIONALLY USED TO INDEX THIS CONCEPT)

		Act.	A

Both READABILITY and READING ACHIEVEMENT were in the *Thesaurus* at the time READING LEVEL was made invalid; thus, the above entries were handled as "change" transactions (with a check in the box that reads "modifying existing term"). Notice the action codes "C" and "A" where "C" indicates a replacement Scope Note, while "A" is used to add a Scope Note where none existed previously. Also, notice the reference to READING DIFFICULTY in the READABILITY Scope Note; during the same *Thesaurus* update, both READING DIFFICULTY and READING LEVEL were made invalid because of inconsistent usage.

(See also discussions on "Invalid 'Dead' Descriptors" under "Main Terms" in item D.2 and "Ambiguous Usage" under "Scope Notes" in item D.4 of this section.)

g. **Transfer to Identifier Field**

This alternative permits those Descriptors that hindsight shows are more suitable as Identifiers to be reposted to the Identifier Field. There are several situations where this action is appropriate, i.e.:

● Highly specific proper nouns.

Example: Move postings of CHAUTAUQUAS to Identifier Field

● Coined terminology.

Example: Move postings of NUCLEATION (LANGUAGE LEARNING) to the Identifier Field

● Synonym of a "true" Identifier.
(Note: A true Identifier is a subject concept used in indexing that does not qualify as a Descriptor—see item C.1.b of this section.)

Example: Transfer the Descriptor SOUTHERN STATES to the Identifier UNITED STATES (SOUTH).

Only one Vocabulary Development Form is needed for Descriptor-to-Identifier transfers. The form should reflect the purge transaction,

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accompanied by specific transfer instructions and justification information that explains why the term is not a suitable Descriptor.

Descriptors transferred to Identifier synonyms are added as UFs to the *Identifier Authority List* (IAL) by the Facility lexicographic staff. Scope Notes reflecting such transfers may be added to the IAL, particularly if the former Descriptor was heavily posted.

Descriptor-to-Identifier transfers are extremely rare, comprising fewer than 10 instances in ERIC's first 25 years. Another purge alternative is almost always more suitable.

b. **Simple Delete**

A final alternative for purging a Descriptor is to expunge all references to it from the *Thesaurus* and all of its postings from the database. Like Descriptor-to-Identifier transfers, "simple deletes" are generally not recommended and should be restricted to the following instances:

- Little-used ambiguous terms that encompass no appreciable subject content.

    Examples: ADVANCED SYSTEMS; LIMITED EXPERIENCE; NONFARM YOUTH.

- Little-used highly specific terms whose existence cannot be justified because there is little or no data in ERIC on the subjects they represent.

    Examples: BIRACIAL GOVERNMENT; CABINET TYPE PROJECTORS; HORIZONTAL TEXTS.

Only one Vocabulary Development Form is required for a "simple delete." However, a search must be attached that shows that each individual posting of the term was checked for alternate retrievability. Other Descriptors should be recommended for all records that need compensatory reindexing.

7. **"Justification Information" Section**

This section of the Vocabulary Development Form lists the requirements for justifying all *Thesaurus* transactions (whether new term, change, or purge). As an aid to the preparer, specific instructions accompany some of the information blocks. There are six information blocks, labeled A-F.

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a   **Indexer & CH**

Preparer's name and organizational affiliation are entered. For Clearinghouses, enter indexer's name and Clearinghouse prefix.

> A. Indexer & CH
>
> Jane T. Doe, TM

b.   **Supervisory Approval & Date**

Preparer's supervisor signs and dates the form. For Clearinghouses, the form must be examined by and have the signature of the Clearinghouse Vocabulary Coordinator (or his/her designated representative).

> B. Supervisory Approval & Date
>
> *William K. Brooks* 5/4/91

c.   **Personal Contacts**

This block is subdivided into "Clearinghouse Consultation" and "Other Personal Contacts." Education encompasses wide-ranging subject fields, and ERIC serves a highly diversified user community. Adequate consultation on *Thesaurus* transactions among ERIC's subject-specialty Clearinghouses is necessary in order to avoid parochial points of view. Any transactions on a particular term must be considered from the viewpoints of all those Clearinghouses that may frequently use the term or whose scope areas cover the subject conveyed by the term. Subject specialists, within or outside a particular Clearinghouse, are often contacted with reference to *Thesaurus* transactions. The form reminds the preparer to list such contacts and give their reactions.

The form should list individuals contacted at Clearinghouses, if other than designated Vocabulary Coordinators. Addresses and phone numbers of consultants outside of the Clearinghouses should be provided for lexicographic followup when necessary.

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```
C. Personal Contacts
   • Clearinghouse Consultation
     (List CHs contacted, and indicate
     agreement/disagreement; state reasons for
     disagreement.)


   EA, HE, and SE
   agree.




   • Other Personal Contacts and Reactions



   Scope Note
   recommended by:
     Linda E. Littlejohn
     Dept. of Psychology
     Univ. of XYZ

     (214) 678-9100
```

d.   Authorities Used

Authorities must always be cited for new Descriptors, or for redefining or merging existing Descriptors. Preparers should list all dictionaries, glossaries, and ERIC documents used in preparing Scope Notes, as well as the thesauri used to structure a term's display. The ERIC Facility maintains a "*Thesaurus* Bibliography" of frequently cited terminological references (see item B.6, "Lexicographic Authorities"). A minimum of three authorities must be cited for each definitional Scope Note prepared (see item E.4.c, "Scope Note/Definition (Field #3)").

Each Clearinghouse should copy its regularly used, core authorities on its copies of the form to avoid rekeying the same citations every time a form is completed. Citations, particularly of well-known authorities, may be abbreviated, and each should include the edition or year of publication. In listing core authorities on the form, Clearinghouses should leave enough space so that sources used less frequently, and special sources such as specific ERIC documents and journal articles, can be written or keyed in as needed.

Each authority examined for a specific transaction should be marked "X" or "O" ("Term Found" or "Term Not Found"). In this way, the Lexicographer at the Facility can avoid unnecessary rechecking of authorities

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that the preparer of the form has already checked. Copies of pertinent sections of journal articles and other special sources cited should be submitted with the form, as these may not be readily available to the Lexicographer; appropriate passages on these copies should be marked or highlighted. (See also item E.4.c.)

D. Authorities Used
(Citations of regularly used authorities may be copied onto the form.) Each authority used should be marked as: X = Term Found; O = Term Not Found.

O	Random House Unabridged, 2nd ed	**O**	LC Subject Headings, 14th ed
X	A Women's Thesaurus, 1987	**O**	European Education (EUDISED) Thesaurus, 1984
X	British Education Thesaurus, 1988		CINAHL Subject Heading List, 1992
X	PsychAbs Thesaurus, 1991	**O**	PAIS Subject Headings, 1990
O	SocAbs Thesaurus, 1989	**O**	AgeLine Thesaurus, 1991
O	CRS Thesaurus, 1990	**O**	American Educators' Encyc, 1982
O	Natl Criminal Justice Thesaurus, 1990	**X**	Educator's Desk Reference, 1989
	NASA Thesaurus, 1988	**X**	Encyc of Educational Research, 7th ed, 1982
	MeSH, 1991	**X**	ED328397 - "Assessing Student Attitudes toward Heterogeneous Grouping: A Pilot Study"
O	SPINES Thesaurus, 1988	**X**	ED263492 - "Effects of Inter-Class Ability Grouping on Achievement and Self-Esteem"
	NCES, Class. of Instructional Progs., 1991		

---

e.   **Impact on** *Thesaurus*

This information block asks the preparer to consider the basic pitfalls of a typical vocabulary transaction. These include homographs, overlapping concepts, and invalid hierarchical insertions. Thoughtful consideration of the

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factors listed on the form should help avoid indexing misuse and searching problems.

E. Impact on Thesaurus
Indicate potential impact of this transaction on hierarchies and other terms in the Thesaurus. Consider, particularly, any overlap with other terms. Homographs should be qualified; occasionally, additional forms, revising older scope notes and displays, will need to be submitted in order to avoid indexing misuse.

```
Candidate Descriptor is specific, unambiguous, and needed to
index a concept appearing frequently in the contemporary
literature of vocational education.

See attached search.
```

---

f.   **Impact on Database**

The last "justification information" block covers the basic procedures that are necessary to assure compatibility at all times between the *Thesaurus* and the ERIC database. This compatibility is a stated ERIC policy (see item B.5, "Synchronization of Lexicography and Indexing") and represents a practice that is not often seen among other major database systems.

Where practicable, a comprehensive update of the database backfile is made whenever a *Thesaurus* term is either added or deleted. These updates lessen the complexities of computer searching, enhance retrieval, and promote user satisfaction with search results. Essentially, each preparer of a Vocabulary Development Form, usually a Clearinghouse indexer, is asked to do a computer search before finalizing his/her recommendation. The perspective of the searcher is an ingredient in all successful indexing, and the practice of researching *Thesaurus* transactions on the computer undoubtedly results in better indexing.

This practice, of course, requires that indexers have ready access to a computer with a modem. Users who are interested in recommending a *Thesaurus* change but without ready access to the ERIC database are requested to contact the Facility Lexicographer for assistance.

The following illustration shows the results of a typical comprehensive search for a new term recommendation. The new term in this case is MAGNET SCHOOLS. Seven (7) functions were performed in order to obtain these results:

1. Find word "magnet" in the Identifier Field.

2. Eliminate (manually) Identifiers retrieved that do not fit the Scope Note of MAGNET SCHOOLS (e.g., any pertaining to metallic attraction).

3. Repeat step #1 full-text (e.g., for titles and abstracts).

4. "Not out" step #1 results from step #3 results.

5. Repeat step #2 on results of step #4.

6. Evaluate the records remaining after step #5 to determine whether MAGNET SCHOOLS should be major or minor.

7. List results of step #2 (second bullet below) and step #6 (third bullet below).

F. Impact on Database

1. New Term   SEARCH ATTACHED

- Attach full-text search, including strategy. Do not limit the search (i.e., by Clearinghouse, by RIE or CIJE, etc.).
- List identifiers to be transferred to new term. Include all variations. It is unnecessary to also list accession numbers to which the identifiers are posted.

Magnet Schools	Russell Conwell Middle Magnet School
Magnet Centers	Magnet School Plan
Magnet Programs	Conwell Middle Magnet School
Magnet Program	

- List all accession numbers to which the new term should be posted, excluding those posted by the identifiers listed above. Precede by an asterisk (*) those accession numbers where the new term should be a major Descriptor.

ED016718	ED078621	ED130450	ED146708	*ED156915	*ED181931
ED019341	ED094014	ED137433	ED148969	ED166314	
ED041056	ED116307	ED145054	*ED149454	ED169172	*EJ203973
*ED064125	*ED117206	ED145058	ED152905	*ED170423	*EJ207708
ED064434	ED117226	*ED146313	ED152912	ED178646	*EJ210203

The second part of this information block is used for delineating purge recommendations. There are eight alternatives for dealing with the postings of purged Descriptors, each of which is explained under item E.6, "Purging Existing Term." A choice among these alternatives will determine which among the form's three check boxes is appropriate. The example below shows a one-to-one transfer between two existing terms. As the example illustrates, liberal use of the form may be made for explanations and other notes.

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2. Purge   SEARCH ATTACHED -- DRAFTERS

- Attach search.
- Show total postings: _____28_____ .
- Check one: ✓

☒ Transfer all postings to: DRAFTING (has 216 postings,.overlapping with DRAFTERS 12
☐ Transfer postings to_____ , excluding: times -- total after
(List accession numbers and show necessary manual reindexing for each.)   merge will be 232)

☐ Postings are not transferrable.
(Attach 2nd form for invalid/"dead" term entry, or provide manual reindexing for all postings.)

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8. **Transmittal of Form**

All completed Vocabulary Development Forms (with attachments) should be transmitted as they occur to the address at the bottom of the form's front side, i.e.:

> Send form to:
> ERIC Processing and Reference Facility
> ATTN: Lexicographer
> 1301 Piccard Drive, Suite 300
> Rockville, MD 20850-4305

Be sure to include search strategies and backfile change recommendations. Backfile changes may be recorded on the Vocabulary Development Forms themselves or, if that is not convenient, on search printouts. *Note: Unscrutinized or unedited ERIC printouts normally need not be sent, since the data they would contain is usually readily available both online and via CD-ROM to all ERIC staff. When sizable search results must be submitted, it is usually easier and more economical to use floppy disks (either 3½-inch or 5¼-inch disks are acceptable).*

To avoid confusion and delays, do not include Vocabulary Development Forms with RIE or CIJE shipments to the ERIC Facility.

Originators, whether Clearinghouses or external users, should retain copies of all Vocabulary Development Forms and related attachments for reference in case coordination is necessary.

9. **ERIC Facility Processing**

Upon receipt of a Vocabulary Development Form, the Facility Lexicographer performs a preliminary review to ensure compliance with the *ERIC Processing Manual*. If there is a significant problem, the originator of the input is contacted prior to entering the recommendation in the *Vocabulary Status Report* (VSR). The VSR is prepared every 1-6 months, but at least twice per year; it is a listing of all *Thesaurus* recommendations and serves as the medium for Vocabulary Review Group (VRG) evaluation and feedback. VSR recommendations approved by the VRG are entered in the *Thesaurus* and the ERIC database by the Facility lexicographic staff; the staff also prepares a periodic summation entitled *Thesaurus Changes and Statistical Data*, which serves as a *Thesaurus* supplement. All of these procedures are fully discussed in item "B.3" of this section, "Vocabulary Development Program."

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ATTACHMENT #1

History of the Thesaurus of ERIC Descriptors[*]

The Western Reserve (WR) Studies

The ERIC feasibility studies funded by the Office of Education (OE) and conducted in the early 1960s by Western Reserve University led in June 1966 to a list of 4,500 terms in the subject area of educational media, structured in an array of broad facets such as activities, characteristics, and people, subdivided by subfacets, and further by numerous groups. The WR team of Gordon Barhydt, Charles Schmidt, & Kee Chang felt strongly that "...the establishment of useful and valid interterm relationships could be accomplished only by the conceptual analysis that is a prerequisite to faceting." This philosophy was supported by earlier classification works such as the American Petroleum Institute's Subject Headings, and The London Education Classification by D.J. Foskett, as well as early advocates such as Maurice Tauber and Oliver Lilley. The Barhydt & Schmidt faceted array thesaurus was published in 1968 by Case Western University Press under the title *Information Retrieval Thesaurus of Education Terms*.

Operation Fingertip and the "Disadvantaged Collection"

Another functional, but less elaborate, approach to thesaurus construction was being pursued in the mid-1960s by the Engineers Joint Council (EJC), the Department of Defense, and a COSATI indexing subpanel. This collaboration, under the rubric Project LEX, led in 1967 to the landmark *TEST Thesaurus*. ERIC followed the activities of Project LEX closely, and in this connection, contracted in 1964 a project called Operation Fingertip with Jonker Business Machines, Inc. Jonker, under Operation Fingertip, developed a "free indexing" core of 2,300 terms while indexing 1,700 ESEA Title I reports. The Central ERIC staff, under the direction of its chief lexicographer James Eller, then structured these terms, using a set of preliminary guidelines based on EJC conventions. The terms were then reviewed by a volunteer group of librarians, information specialists, and educators, and an interim or "Phase I" Thesaurus was made available in June 1966. The so-called "disadvantaged collection" became the first set of documents in the ERIC database. (See ED-070485, *Catalog of Selected Documents on the Disadvantaged: Subject Index*.)

Choosing the "Disadvantaged" Terms over the Western Reserve Facets

Central ERIC decided in mid-1966 to abandon Western Reserve's faceted array of terms and to go with the structured terms of the "disadvantaged collection." Why? The facets were thought to be somewhat inflexible. The new ERIC Facility contractor, North American Aviation, had used the EJC conventions to develop its own Thesaurus, and the resultant software was incompatible with faceted arrays. Also, the WR Thesaurus, originally developed around a collection of documents in the educational media field, was incompatible with the terms and documents on the "disadvantaged" that comprised the initial ERIC database. Thus, a precedent was being set for what still remains true for the ERIC *Thesaurus*. That is, the ERIC *Thesaurus* is an "authority list" and not really a theoretically comprehensive "thesaurus", i.e., only those terms are accepted for the *Thesaurus* that are actually used to index documents in the ERIC database.

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[*]Some of this information was borrowed from "The Vocabulary," Chapter VII of Delmer J. Trester's *ERIC — the First Fifteen Years; A History of the Educational Resources Information Center* (ED-195289).

Choosing the structured "disadvantaged" terms over the WR facets turned out to be the correct path. The American National Standards Institute's Z39 guidelines for thesaurus structure, construction, and use, published in 1974 (revised & updated in 1980 & 1990**) and now the standard for information retrieval thesauri in the U.S., was developed primarily from the earlier precedents established by the TEST *Thesaurus* and the ERIC *Thesaurus*.

The Panel on Educational Terminology

Concurrently with the indexing of the "Disadvantaged Collection," a thesaurus advisory group was formed to consult with Central ERIC. This small 6-person group, called the Panel on Educational Terminology (PET), consisted of both educators and information experts from both inside and outside the Federal Government. Early meetings also involved observers from various subject-matter areas. The PET group, under the direction of ERIC Lexicographer James Eller, guided the development of the ERIC *Thesaurus* through its first 8 years (1965-72).

"Rules for *Thesaurus* Preparation"

Concurrently with the structuring of the "disadvantaged" terms, the PET group began preparing a formal set of rules or conventions to govern vocabulary expansion beyond the initial core of terms. PET had decided that the rules and conventions appropriate for the physical sciences and engineering (developed by the Engineers Joint Council and the Department of Defense's Project LEX) were not entirely suitable for the social sciences and for the field of education. As a result, a modified set of rules regarded as appropriate for ERIC began to take shape. First published in October 1966, these rules were entitled "Rules for *Thesaurus* Preparation."

The rules contained instructions on proper Descriptor construction, format, and content. Special emphasis was placed on the convention that Descriptors must represent concepts found in the literature and must be actually used in the ERIC database. Earlier work at Central ERIC had indicated that the expression of educational concepts is frequently not possible by the use of uniterms (single-word terms). The rules indicated that multiword Descriptors should be used when false coordinations are otherwise probable, when single words combined in searching mean something different than intended, and when single-word terms have excessively high postings. The rules were completed in time for use with the initial indexing for the first issue of RIE, published in November 1966. CIJE appeared about 2 years later, in January 1969.

The 1966 "Rules for *Thesaurus* Preparation" represent the foundation of the ERIC vocabulary rules followed today (see Section VIII (Part 1), item D). A second (and last) edition of these rules was published in September 1969 (see ED-033740).

Vocabulary Expansion (Period of Significant Growth)

The emphasis during the early years was on expanding the ERIC vocabulary beyond the initial core list of terms. New Descriptors were added on the basis of their need in indexing the documents going into the system. When an ERIC indexer determined the need for a new Descriptor, he/she would prepare the appropriate justification with authority citations and definitions, and submit such justification to the Facility Lexicographer. (These same basic practices are in effect today.)

The increase of new Descriptors was rapid during the early years of the ERIC system. A

**1990 draft revision, ANSI/NISO Z39.19-199x, developed by the National Information Standards Organization (NISO), circulated 1/10/90 among NISO voting members for comment.

plateau was reached in 1971 with about 7,300 terms, including 4,900 postable main terms. The ensuing 8 years through 1979 brought an average of about 100 new terms per year to the *Thesaurus*. Not until 1980 and the implementation of the results of the comprehensive Vocabulary Improvement Project (VIP) was this trend substantially altered.

Thoughts of Backtracking

As the *Thesaurus* continued to grow, it gradually became apparent that some early decisions were not wholly satisfactory. Problems such as nearly synonymous Descriptors, ambiguity among terms, and discrepancies among generic (hierarchical) relationships began to surface.

The first talk of possibly merging nearly synonymous Descriptors occurred in 1969, but the idea was rejected for the time-being because of the great expense thought to be involved.

By the time DIALOG was commercially operational for online computer searching in early 1972, the PET group had decided it was time to shift attention away from *Thesaurus* expansion to an evaluation of the existing *Thesaurus* terminology from the users' point of view. Before any activity could get underway, however, the PET group disbanded, primarily because its chairperson and ERIC's original Lexicographer, Dr. James Eller, left the ERIC system.

Vocabulary Improvement Program

Before the end of 1972, the ERIC Facility submitted a proposal for the establishment of a nationwide Vocabulary Improvement Program. The program got underway in the fall of 1973 with the development of the "Transfer-and-Delete" software system, and the establishment of the Vocabulary Review Group and the *Thesaurus* Advisory Panel.

The new "Transfer-and-Delete" system allowed one transaction to be written that would both delete a term and simultaneously transfer all of its postings to another term. Such a capability permitted the master files for RIE and CIJE to remain compatible with a substantially modified *Thesaurus*. Vocabulary Review Group members were selected so as to achieve a broad base of coordination. Representatives or "vocabulary coordinators" were included from the ERIC Clearinghouses, as well as from various university libraries and State Education Departments having access to the ERIC database and experience in its use. Recommended changes to the *Thesaurus* were accepted from all network staff and external users. Such recommendations were recorded on a Term Change Notice (TCN) Form and distributed to the review group members for their reactions. The *Thesaurus* Advisory Panel (TAP) was set up as a locally (Washington) based group, consisting of membership from Central ERIC, the ERIC Facility, and several other members within and outside the ERIC network. The group's purpose was to replace the disbanded, policy-making PET group and to resolve those relatively few issues of *Thesaurus* change for which a consensus of review group members could not be achieved.

Never designed as a centralized, intensive clean-up effort, the original Vocabulary Improvement Program was effective in meeting its objectives. During the 1973-78 time frame, 50 TCNs were evaluated by the review group, resulting in the deletion and reposting of 87 unwanted Descriptors. In its meetings, the TAP approved several innovations (e.g., two-way hierarchical display, add/entry dates, multiple "Use" references) that ultimately became integral parts of the *Thesaurus*. However, the program was somewhat cumbersome with its complicated paperwork flow and documentation requirements. In April 1976, an ERIC indexing seminar (held in Annapolis, Maryland, as part of that year's National Technical Meeting) helped to solidify the feeling that it would take far too long to accomplish a thorough thesaural clean-up with the existing program. Following up in November 1976, Central ERIC funded a small study project for Jim Houston, the Facility Lexicographer, to investigate

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ways in which comprehensive vocabulary improvement might be accomplished in a reasonable time frame.

Shifting into a Higher Gear

Three information systems known to have engaged in vocabulary revitalization efforts (NTIS, the Engineering Index, and the Chemical Abstracts Service) were surveyed by the Facility with the hope that their experience would prove useful in planning a new vocabulary effort for ERIC. In fact, however, ERIC proved to be breaking new ground in planning and accomplishing its vocabulary improvement. The survey report concluded that the best people to turn to for real vocabulary revitalization would be the actual users of the ERIC *Thesaurus*, i.e., the indexers in the ERIC Clearinghouses and the searchers within ERIC's community of users. A plan was presented to Central ERIC on how to elicit this participation.

Utilizing this basic groundwork, Central ERIC selected a "Coordinator" to organize a new, more intensive project in which a thorough *Thesaurus* clean-up could be realized in a relatively short period of time. The newly proposed effort was called the Vocabulary Improvement Project or the VIP. Its first Coordinator was Barbara Booth of the ERIC Clearinghouse for Junior Colleges. Central ERIC selected Lynn Barnett, ERIC Clearinghouse on Higher Education, to coordinate the project when Ms. Booth left the ERIC system in mid-1979.

Vocabulary Improvement Project (VIP)

The new VIP was inaugurated in September 1977 with a national meeting of Clearinghouse vocabulary coordinators and selected users involved in the original Vocabulary Review Group. At that meeting, an Executive Committee was selected consisting of the VIP Coordinator, the Central ERIC Monitor, the Facility Lexicographer, and two vocabulary coordinators from the Clearinghouses. This overall coordination meeting was followed quickly by three more vocabulary coordinators' meetings, held in conjunction with regional technical meetings, where the actual procedures of the new project were worked out.

● **Phase I: "*Thesaurus* Review"**

The first phase of the project was labeled "*Thesaurus* Review." The goal was to permit as many individuals as possible to critically evaluate each *Thesaurus* Descriptor and its accompanying display. A "Descriptor Review Form" was developed by the VIP Executive Committee, and Clearinghouses participated in preparing a form for each Descriptor and its display -- about 5,200 originals. (See Figure VIII-1-ATT-1-1 for an example of this form complete with a reviewer's comments.) Each Clearinghouse received a complete set of forms from the Facility in March 1978. Sixteen user organizations also received some of the forms (or all of them, in some cases). By August, over 60,000 Descriptor evaluations had been completed, about 10,000 by the external users.

All forms were returned to the Facility where they were collated into a complete set for each Descriptor. The Executive Committee then sorted the forms again for Clearinghouse assignment (based on "scope of interest"), and the Facility arranged their distribution. Each Clearinghouse and the Facility received approximately 300 Descriptor assignments. Clearinghouses then determined priorities and arranged their schedules in order to complete their assignments. The axiom "usage determines meaning" was the overriding guideline for Phase II.

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VOCABULARY – DESCRIPTORS

DESCRIPTOR REVIEW FORM

ERIC PROCESSING &
REFERENCE FACILITY

Clearinghouse/Organization

ERIC VOCABULARY IMPROVEMENT PROJECT

Reviewer _____ Date 5-1-78

		POSTINGS/USAGES					
Total	Major	Minor	RIE	CIJE	1966-1970	1971-1974	1975
942	463	479	171	771	126	558	258

DESCRIPTOR DISPLAY BEING REVIEWED Group 510

RATINGS (Main Term and Scope Note)	1 High	2	3 Moderate	4	5 Low	6 Don't Know
Interest in term			X			
Usefulness		X				
Clarity of Meaning			X			
Acceptability of form	Precise / Preferred	X			Ambiguous / Nonpreferred X	
Distinctness	Discrete				Synonymous	

LABORATORY PROCEDURES
SN TEACHING PROCEDURES USED IN THE LABORATORY PHASE OF INSTRUCTION
BT TEACHING PROCEDURES
RT DEMONSTRATIONS (EDUCATIONAL)
INQUIRY TRAINING
INSTRUCTOR
LABORATORY TECHNIQUES
SCIENCE ACTIVITIES
SCIENCE EXPERIMENTS
SCIENCE PROJECTS
SMALL GROUP INSTRUCTION

Experiential Learning
Simulation
Laboratories
(and other "laboratory"
terms as appropriate)

OVERALL ASSESSMENT/DECISION | CLEARINGHOUSE USE ONLY

Main Term
___ OK As Is
X Action Required
___ No Opinion

Display
___ OK As Is
X Action Required
___ No Opinion

___ In-Scope
___ Out of Scope

Specific changes (suggested by action items checked below) may be indicated directly on the display to the left, when appropriate.

ACTION REQUIRED—MAIN TERM/SCOPE NOTE/GROUP CODE (Optional)
X Add/revise Scope Note See comment below
___ Change Group Code to
___ Homograph, divide and/or qualify
X Retain, but merge near-synonym(s) Laboratory Techniques
___ Delete, transfer to new term
___ Delete, merge with existing term ___ (SYN) (BT) (RT)
___ Delete, transfer to Identifier field
___ Delete (only)
___ Other (specify below)

ACTION REQUIRED—DISPLAY (Optional)
___ Add/delete/NT(s) Add "Methods"
X Add/delete/BT(s) Delete "Teaching Procedures"
X Add/delete/RT(s) See Display
___ Add/delete/UF(s)
___ Other (specify below)

ADDITIONAL COMMENTS (e.g., special meanings within sub-disciplines, relationships with other terms). Continue on back if necessary:
Little difference between the ways "lab procedures" & "lab techniques" are used in indexing. Recommend deleting latter term. With a merge, above Scope Note should be changed to something very general or deleted entirely.

Form No. EFF 54 (12/77)

FIGURE VIII-1-ATT-1-1: "DESCRIPTOR REVIEW FORM" OF THE VOCABULARY IMPROVEMENT PROJECT (VIP)

● **Phase II: "Production"**

Phase II or the "Production" phase extended from November 1978 to September 1979, during which time Clearinghouse personnel (using the completed "Descriptor Review Forms") wrote and rewrote scope notes, merged synonymous terms, updated obsolete terminology, and revised cross-references. All suggestions were recorded on a special *Thesaurus* input form (designed by the Executive Committee -- see **Figure VIII-1-ATT-1-2**), sent to and reviewed by the Facility lexicographic staff, then keyed into a special *Thesaurus* file informally called the *"Play Thesaurus"* (PT). Each suggestion in the PT identified the originator by Clearinghouse/Facility prefix and was coded "approved/disapproved" by the Lexicographers. The PT was updated twelve times over a 14-month period. Each issue was distributed to all participants, who could then react to the suggestions of others, or to lexicographic decisions, via a special "Comment" field. Each "Comment" was also identified by Clearinghouse/Facility prefix and arranged chronologically so that a continuing dialog was provided throughout the twelve PT issues. Nearly 11,000 transactions had been entered into the PT file when the last issue was published shortly after New Year's Day 1980. The Executive Committee met during the week of January 14-18, 1980 in Washington, D.C., to close out the PT phase of the VIP. Over 500 terms that had not received final resolution in the PT were reviewed by the Committee, and final dispositions were made.

Nearly 7,000 suggestions from the "production" phase were designated as "approved." These were keyed directly from the PT to the "real" *Thesaurus* file. The working copies of the "new" *Thesaurus* were ready in March 1980 for use in indexing; the published version followed in June 1980. A summary of the major VIP transactions follows:

> 1,437 Scope Notes Written
> 512 New Main Terms Added
> 841 Main Terms Converted to "USE" Terms
> 123 Terms Invalidated (i.e., kept on the file, but no longer used)
> 18 Terms Purged
> 563 New "USE" Terms Added
> 716 "USE" Terms Deleted

The RIE and CIJE master files and the inverted postings were updated to reflect all of these changes---this involved more than 2 million transactions to individual records in the database. Updated magnetic tapes were sent to the online vendors in September 1980.

● **The VIP Legacy**

The 1977-80 Vocabulary Improvement Project (VIP) was a major event in the history of ERIC and in the information/library science field. Such an undertaking by a major information system was virtually unprecedented. The ERIC *Thesaurus* was completely revised to reflect contemporary indexing needs, while the integrity of the ERIC database was preserved for the searcher through massive updating, and both were done within a period of 3 years.

-- **Total Network Involvement in *Thesaurus* Development**

The VIP introduced a new methodology for thesaurus development and maintenance activities within a decentralized system. Prior to the VIP, changes to the ERIC *Thesaurus* (particularly with respect to individual terms) were based essentially on negotiations solely between a submitting Clearinghouse and the central lexicographic staff.' The VIP, through its interactive *"Play Thesaurus,"* extended the negotiation process to all Clearinghouses.

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FRONT

BACK

**FIGURE VIII-1-ATT-1-2: "PLAY THESAURUS" INPUT FORM
OF THE VOCABULARY IMPROVEMENT PROJECT (VIP)**

In the VIP, decisions negotiated between a submitting Clearinghouse and the Lexicographers were recorded in a *"Play Thesaurus"* (PT) for other Clearinghouses to see. All Clearinghouses could then review these decisions and use the PT for communicating their opinions and other comments. The Lexicographers, conducting additional negotiations as necessary, would then use these remarks in finalizing a term, its Scope Note, and/or display for the "real" *Thesaurus* file.

This system of total participation worked so well that it was retained and continued after the VIP was completed.

"Vocabulary Development Program"

In May 1980, Patricia Coulter (Central ERIC Monitor of the VIP), Lynn Barnett (VIP Coordinator), Jim Houston (Facility Lexicographer), and Carolyn Weller (Identifier Coordinator) met to determine how to use the experience gained during the comprehensive Vocabulary Improvement Project for the future development and control of the ERIC *Thesaurus*. Through their deliberations, a new program was outlined having the overall purposes of increasing efficiency, reducing costs, and more thoroughly involving the Clearinghouses and users in the *Thesaurus* activities of the future. In order to represent a new beginning, the new program was called the "Vocabulary Development Program." With the blessing of Central ERIC, and after a review by Clearinghouse staff members involved in vocabulary work, the new program became operational in December 1980.

The "Vocabulary Development Program" is structured to permit all *Thesaurus* recommendations to be examined by a "Vocabulary Review Group" (VRG) before final dispositions are made. Reconstituted from the earlier VRG (see "Vocabulary Improvement Program"), the present VRG's 29 members include representatives from every Clearinghouse, Central ERIC, ACCESS ERIC, the CIJE Publisher, the Facility, several user organizations, and "International ERIC."[****] The Vocabulary Status Report (VSR), issued at least twice a year, serves as the mechanism for alerting the VRG to proposed changes, for soliciting the membership's comments and recommendations, and for notifying all members of final dispositions.

Lynn Barnett of the ERIC Clearinghouse on Higher Education was the first Chair of the reconstituted Vocabulary Review Group in 1980-81. Anita Colby of the ERIC Clearinghouse for Junior Colleges has served as the VRG Chair from 1982 to the present.

Each ensuing year since 1980 has seen approximately 100 new main terms added to the *Thesaurus* file. The latest 12th (1990) edition of the *Thesaurus* contains approximately 10,000 vocabulary terms, of which approximately 5,600 are main-entry Descriptors and 4,400 are non-indexable Use references and "dead" terms.

Although the new program requires some additional turnaround time to determine dispositions, this appears to be fully justified considering the additional lexicographic perspectives gained across Clearinghouse subject areas and between indexers and users. The functions, work flow, and documentation procedures of the new "Vocabulary Development Program" are discussed in item B.3 of this section.

[****]"International ERIC" (informally, *InterEd*) includes representatives of the *Australian Education Index*, *British Education Index*, and *Canadian Education Index*, as well as ERIC.

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ATTACHMENT #2

Vocabulary Development Form (VDF) Computer Templates

(These two sample computer templates are provided as
possible models in addition to the one illustrated in
Figure VIII-1-9 of this section.)

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TEMPLATE #1

OCT 31 1988

ERIC VOCABULARY DEVELOPMENT

Adding new term

TERM: INFORMATION SCIENCE EDUCATION

GROUP:

SCOPE: POSTSECONDARY EDUCATION OR TRAINING OF INFORMATION SCIENTISTS AND
OTHER INFORMATION PROFESSIONALS (NOTE: PRIOR TO MONTH YEAR, THIS
CONCEPT WAS SOMETIMES INDEXED UNDER "LIBRARY EDUCATION")

UF:

NT: LIBRARY EDUCATION

BT: POSTSECONDARY EDUCATION
PROFESSIONAL EDUCATION

RT:

Betsy Reifsnyder, IR

Supervisory Approval & Date:

β βm 10/27/88

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INFORMATION SCIENCE EDUCATION--2

PERSONAL CONTACTS: None

AUTHORITIES USED

NOTE: X - term(s) considered (as listed in parentheses)
      0 - relevant terms not found

Education Authorities

0   *Dictionary of education*, Good, 1973
X   *Education Index*

        (INFORMATION SCIENCE--TEACHING)

Library/Information Science Authorities

0   *ALA glossary of library and information science*, 1983
0   *Hennepin County Library Cumulative Authority List*, July 1988
0   *Librarians' glossary of terms used in librarianship*, Harrod, 1984
X   *Library Literature*

        (INFORMATION SCIENCE--TEACHING; INFORMATION SCIENTISTS--EDUCATION)

X   *Library of Congress Subject Headings*, 11th ed. or as updated online

        (INFORMATION SCIENCE--STUDY AND TEACHING)

IMPACT ON THESAURUS/EXPLANATION OF PROPOSALS

Accompanying change needed in LIBRARY EDUCATION, which is proposed as a NT
of INFORMATION SCIENCE EDUCATION. Although LIBRARY EDUCATION was placed
solely under POSTSECONDARY EDUCATION, it is proposed that INFORMATION
SCIENCE EDUCATION be placed both under POSTSECONDARY EDUCATION and
PROFESSIONAL EDUCATION. NOTE: LIBRARY EDUCATION includes the education of
professionals and paraprofessionals. The inclusion of LIBRARY EDUCATION in
a PROFESSIONAL EDUCATION hierarchy is based on the precedent set by LEGAL
EDUCATION (PROFESSIONS), which is placed under PROFESSIONAL EDUCATION and
which includes the education of attorneys and paralegals.

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INFORMATION SCIENCE EDUCATION--3

IMPACT ON DATABASE

Full-text search attached.

Identifiers to be transferred to the Descriptor:

INFORMATION SCIENCE EDUCATION

Accession numbers to which the new term should be posted, excluding any posted from Identifiers listed above. Accession numbers where the new term should be a major Descriptor are preceded by an asterisk. Note: Records retrieved by the following search strategy/ies but inappropriate for posting are crossed out.

NOTE: Records already assigned the terms LIBRARY SCHOOLS or LIBRARY EDUCATION are not proposed for posting to the new term.

Title NOT Identifier search strategy:

information (w) science (w) education

~~EJ365047~~	~~EJ327053~~	~~EJ268663~~	* EJ009668	~~ED265961~~	~~ED265954~~
~~EJ347637~~	~~EJ318756~~	~~EJ264721~~	~~ED273274~~	~~ED265869~~	~~ED237088~~
~~EJ351279~~	~~EJ318606~~	~~EJ225863~~	~~ED272201~~	~~ED265859~~	~~ED203863~~
~~EJ351186~~	~~EJ317247~~	* EJ214707	~~ED265865~~	~~ED265858~~	~~ED111425~~
~~EJ340209~~	~~EJ314100~~	* EJ199857	~~ED265864~~	~~ED265857~~	~~ED101738~~
~~EJ340287~~	~~EJ310388~~	~~EJ162640~~	~~ED265863~~	~~ED265856~~	~~ED100312~~
~~EJ336261~~	~~EJ206995~~	~~EJ136465~~	~~ED265862~~	~~ED265855~~	* ED059615

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Information Science Education 4

? e information science education

Ref	Items	RT	Index-term
E1	1508	16	INFORMATION SCIENCE (STUDY OF THE PROPERTIES OF INFORMATION, I.E....)
E2	1		INFORMATION SCIENCE ABSTRACTS
E3	51		*INFORMATION SCIENCE EDUCATION
E4	9		INFORMATION SCIENCE RESEARCH
E5	311	6	INFORMATION SCIENTISTS (INDIVIDUALS WHO OBSERVE, MEASURE, AND DESCRI...)
E6	1		INFORMATION SEARCH SERVICES
E7	9		INFORMATION SECTOR
E8	1		INFORMATION SECURITY OVERSIGHT OFFICE
E9	1111	14	INFORMATION SEEKING
E10	2		INFORMATION SELECTION
E11	1		INFORMATION SERVICE EXPEDITER
E12	3001	23	INFORMATION SERVICES (THE ACTIVITIES (E.G., INFORMATION SELECTION,...)

S32	105381	INFORMATION
S33	70042	SCIENCE
S34	425200	EDUCATION (PROCESS OF IMPARTING OR OBTAINING KNOWLEDGE,...)
S35	135	INFORMATION (W) SCIENCE (W) EDUCATION
S36	60	S35/ED
S37	75	S35/EJ
S38	49	S35/TI
S39	57	S35/AB
S40	0	S35/DE
S41	53	S35/ID
S42	39	S35/ID,MAJ
S43	14	S35/ID,MIN
S44	49	S35/TI
S45	53	S35/ID
S46	42	S35/TI NOT S35/ID

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TEMPLATE #2

ERIC VOCABULARY DEVELOPMENT FORM

X   Adding New Term

TERM_PAYING FOR COLLEGE

GROUP_620

SCOPE NOTE_DISCUSSION ABOUT OR METHODS FOR FINANCING AN INDIVIDUAL'S
COLLEGE EDUCATION   -- NOTE: DO NOT CONFUSE WITH "STUDENT COSTS"

UF_

NT_

BT_

RT_EDUCATIONAL FINANCE
    STUDENT COSTS
    PARENT FINANCIAL CONTRIBUTION
    STUDENT FINANCIAL AID
    STUDENT LOAN PROGRAMS
    FINANCIAL SUPPORT
    LOAN REPAYMENT
    LOAN DEFAULT   *(new)*

A.   Indexer & CH: Lynn Barnett/HE

B.   Supervisory Approval & Date: Lynn Barnett, 7/20/89

C.   Personal Contacts:

         Clearinghouse Consultation   -- JC agrees

         Other personal contacts/reactions

D.   Authorities Used:

         British Education Thesaurus
         Good's Dictionary of Education (3rd)
         International Encyclopedia of Higher Education
         Medical Subject Headings (1979)
         NASA Thesaurus (1985)
         Sociological Abstracts
         Thesaurus of Psychological Index Terms
         UNESCO Thesaurus
         A Woman's Thesaurus
    X   EJ 304 667 - "Paying for College: Plot a Course Now"
    X   EJ 292 818 - "Paying for College: Beyond Financial Aid"
    X   ED 260 670 - "How Middle-Income Families Pay for College"
    X   ED 002 924 - "How People Pay for College"

2

E.   Impact on Thesaurus

Indicate potential impact on hierarchies and other terms,
particularly overlap with other terms. Qualify homographs.

The descriptor STUDENT COSTS may have been used in the past for
the concept represented by PAYING FOR COLLEGE, but STUDENT COSTS
implies more. Probably the note in the SN will take care of that.
"Paying for college" is really a hot topic in the literature and
in the discussions of the student financial aid legislation.
We've toyed with other phrases (e.g. COLLEGE COSTS), but they are
not specific enough for the concept. Some documents previously
indexed with the iden COLLEGE COSTS have been identified below for
re-indexing with PAYING FOR COLLEGE.

F.   Impact on Database

   1.   **New Term**

        Attach full-text search, including strategy. Do not limit
        search by CH, RIE, CIJE, etc.

        Search shows:
                90   PAYING FOR COLLEGE/ID
               123   COLLEGE COSTS/ID
                21   PAY?(2W)COLLEGE?/TI
                73   PAY?/AB(2W)COLLEGE/AB   [most not relevant]

        List identifiers to be transferred to new term.

           PAYING FOR COLLEGE

        List all accession numbers to which the new term should be
        posted, excluding identifiers. Use * to note majors.

        *EJ304667   *EJ172074   *EJ005450   *ED260670   *ED193980
                                                                *ED002924
        *EJ292818   *EJ104462   *ED266704   *ED074887
        *EJ234481   *ED260673   *ED195182   *ED038124

        Also, see attached page for additional accession numbers.

   2.   **Purge**

            n/a

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Add PAYING FOR COLLEGE to (highlighted) acc. numbers
underscored

10/1/1-72

EJ384160	EJ334537	EJ302996	EJ265832
ED266753	ED260672		
EJ377717	EJ330100	EJ302995	ED296636
ED266750	ED260671		
EJ376206	★ EJ325425	EJ302992	ED296633
ED266741	ED260670		
EJ344128	EJ323989	EJ299882	ED286395
ED266704	ED260608		
EJ344125	EJ312153	EJ296934	ED283499
ED265783	ED259614		
EJ344118	EJ310290	EJ281336	ED272044
ED264807	ED259600		
EJ341547	EJ308586	EJ281330	ED272041
ED263843	ED258516		
EJ341546	EJ308562	EJ279742	ED271038
ED263835	ED255161		
EJ341543	EJ306942	EJ278169	ED267696
ED262713	ED255160		
EJ341542	EJ306939	EJ278164	ED267684
ED262712	ED255159		
★EJ339085	EJ302998	EJ276658	ED267681
ED262693	ED255158		
★EJ336157	EJ302997	EJ271462	ED267676
ED260673	ED254130		

10/1/73-121

ED253186	ED249914	ED247810	ED242246
ED231315	ED223165		
ED253142	ED249913	ED247804	ED242240
ED231314	ED221146		
ED253141	ED249912	ED246820	ED242231
ED231259	ED221116		
ED252150	ED249904	ED246762	ED240942
ED230091	ED215655		
ED252137	ED249875	ED246758	ED238388
ED230085			
ED252129	ED249852	ED246756	ED238308
ED228974			
ED252115	ED248815	ED246755	ED235713
ED228944			
ED251028	ED248755	ED246703	ED234703
ED228939			
ED250985	ED247862	ED243392	ED232586
ED224435			

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F.   Impact on Database

1.   **New Term**

Attach full-text search, including strategy. Do not limit
search by CH, RIE, CIJE, etc.

n/a

List identifiers to be transferred to new term.

n/a

List all accession numbers to which the new term should be
posted, excluding identifiers. Use * to note majors.

n/a

2.   **Purge**

n/a

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