UBLIS 514 DS 2015 fall

**Part 2.   
Exploration of Knowledge Organization Systems (KOS),   
especially KOS accessible on the Web.**

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| **Learning. objectives** | Graduates will able to  2 Find KOS that are candidates for a given application  3 Access and acquire KOS, especially through the Web  4 Analyze the structure of a KOS and evaluate its suitability for a given application |
| **Materials** | See optional introduction  Table 1. Some important KOS directories / search sites  KOS Analysis Template  Several examples of filled-in KOS evaluation templates |
| **Optional introduction** | Lecture(PowerPoint) and associated printed materials from my LIS 571.  Lecture link:  http://www.dsoergel.com/UBLIS571DS-13.1-2Lecture13.1ExplorationOfKnowledgeOrganizationSystemsSlidesNew.pptx  Printed material was sent |
| **Tasks** | 1 Find at least 5 KOS in your chosen subject area  2 Analyze at least one of these KOS  For both, detailed instructions below |
| **Products / Deliverables** | 1 A list of at least 5 KOS with their URLs  2 Filled-in KOS Analysis Template for at least one KOS |

**Task 1. Find at least 5 KOS in your chosen subject area**

**Finding KOS on the Web**

There are two ways:

**1 Search a KOS directory,** such as the ones listed in Table 1

Note: to find some of these, I searched Google for

(KOS OR ontology OR thesaurus OR taxonomy OR vocabulary)(registry OR directory)

2 **Search on a search engine,** such as Google, using the following query:

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| **General format for a query**  (terms meaning KOS all OR) (terms designating your subject all OR)  **Search terms for a Web search for KOS** (copy and paste into search box):  ("knowledge organization" OR ontology OR classification\* OR taxonom\* OR thesaur\* OR “subject heading” OR dictionar\* OR glossar\* OR lexicon OR terminolog\* OR vocabulary OR “authority list” OR folksonomy)  You may need to omit "ontology and/or "classification" if they pull a lot of irrelevant URLs  You need to go down quite a bit in the search results, so set the display default to 50. |

**Table 1. Some important KOS directories / search sites**

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| **Directories of thesauri, taxonomies, classification schemes and such** | | |
| Taxonomy Warehouse | <http://www.taxonomywarehouse.com/>  Browse KOS by subject categories  <http://www.taxonomywarehouse.com/details.aspx?vunid=107275>  Look in the alpha list  Click on *Taxonomies* in the box top right  Use the search | |
| TaxoBank Access, deposit, save, share, and discuss taxonomy resources | <http://www.taxobank.org>  <http://www.taxobank.org/content/about-us>  <http://www.taxobank.org/terminologies?> | |
| Library of Congress vocabularies  LC Linked Data Service. Authorities and Vocabularies | <http://id.loc.gov/> | |
| FAO − Food and Agriculture Organization of the UN  Agricultural Information Management Standards (AIMS)  VEST Registry. Vocabularies | <http://aims.fao.org/advice/controlled-vocabularies>  <http://aims.fao.org/vest-registry/browse-by-vocabularies> | |
| Unified Medical Language System® (UMLS®**)**  Needs a license. Apply per instructions on the website | <https://www.nlm.nih.gov/research/umls/>  Click on UTS to get to <https://uts.nlm.nih.gov/home.html>  To search UMLS, click on Applications in the green bar | |
|  |  | |
| **Directories of ontologies in the sense of conceptual data schemas**  An ontology as used here defines entity types and relationship types for structuring data in a domain**.** | | |
| Linked Open Vocabularies (LOV)  A directory of 500+ vocabularies. "Vocabulary" here means an entity-relationship conceptual data schema for linked data in some domain. | | <http://lov.okfn.org/dataset/lov/> |
| Ontohub 3,200+ ontologies | | <https://ontohub.org> |
| VIVO ontology repositories | | <http://swl.slis.indiana.edu/repository/> |
| Bioportal A repository of over 300 biomedical ontologies and includes tools for working with these ontologies. | | <http://bioportal.bioontology.org/> |
| The Open Biological and Biomedical Ontologies | | <http://www.obofoundry.org/> |
| Ontobee: A linked data server designed for ontologies | | <http://www.ontobee.org/>  Select an ontology and click on  *Class* (towards the bottom of the screen) to browse (sort of)  Search for a term across all ontologies (takes a while) |
| European Molecular Biology Laboratory. European Bioinformatics Institute  Ontology Lookup Service | | <http://www.ebi.ac.uk/ontology-lookup/init.do> |

**Task 2. Analyze at least one of these KOS**

In the analysis you apply concepts on the structure of KOS that you learned in Part 1.

Use the KOS Analysis Template provided as a separate document.   
Do not worry about keeping the filled-in template to two pages; use whatever space you need.

**Further explanation**

The reading 2.Soergel. *KOS overview,* p. 14 - 20 gives a comprehensive template for the description and analysis of KOS (first a filled-in example, then the template). The KOS Analysis Template you will use is focused on selected aspects.

**The remainder of this document includes**

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| Some points on procedure for analyzing and evaluating a KOS | p. 5 |
| Analysis and evaluation of Knowledge Organization Systems (KOS)  Characteristics for describing, analyzing, and evaluating KOS  A long version of what is covered in the KOS analysis template | p. 6 - 10 |
| KOS Analysis Template for Dewey Decimal Classification | p. 11 - 12 |
| KOS Analysis Template for the Library of Congress Classification | p. 13 - 14 |
| KOS Analysis Template for the Library of Congress Subject Headings | p. 15 - 16 |

**Some points on procedure for analyzing and evaluating a KOS**

**What went into the development of a KOS**

Check sources used.

Check procedures used in KOS development.

**Examine the KOS structure and content**

Use knowledge of KOS structure for analysis of structure and internal consistency.

Check against other KOS and against encyclopedias, dictionaries, or other authoritative sources.

In this examination, collect data on all the criteria in parallel by looking through the KOS, probing for examples and following leads as they arise. Interact with the KOS. Keep notes according to the outline of criteria. (Much like anthropological field work, where the investigator observes as events occur, keeping the variables of interest in mind but is always open to aspects not though of beforehand. At some point, the notes are indexed and sorted by the variables of interest.)

**Check how well the KOS supports the functions it was designed for**

If the KOS purpose is to support finding items (documents, software, products, people, jobs, etc., either indexed by the KOS or searched free-text), try the KOS to see how well search requests can be expressed and how well the aspects under which items should be found can be represented. Conduct indexing and retrieval experiments. Observe users interacting with the KOS online; see how it helps them in formulating a successful query. Study the effects of behind-the-scenes query expansion through the KOS. Such tests can be done by the evaluator - for example, to shed light on completeness - or by real indexers and real searchers, making sure that the indexers have sufficient domain knowledge and training in the use of the KOS. Indexing experiments where several indexers index the same documents can be very useful; disagreements may point out problems in the KOS.

It the purpose of the KOS is to support reasoning, run sample reasoning tasks and check the results. This may require tracing a reasoning process, paying particular attention to the steps where the KOS was used. If the purpose of the KOS is business process reengineering, talk to the people who do the task to see how the KOS helps them. If the purpose of the KOS is to collect and use statistics, check how well the KOS supports consistent data collection (depends on good definition of the concepts) and how well it supports finding data and processing them to derive indices or decision support.

**Analysis and evaluation of Knowledge Organization Systems (KOS)**

**Characteristics for describing, analyzing, and evaluating KOS**

(classifications/ontologies/taxonomies/index languages/thesauri/glossaries/dictionaries)

(For some items, a section number from Soergel, Organizing information (starting with a digit), and/or Soergel, Indexing languages and thesauri (starting with a capital) is given.)

1. **Overall description and evaluation**

1.1 **Purpose**, for example (see full list given earlier)

Providing "conceptual infrastructure"

Mapping out the conceptual structure and providing a common language for a field

Providing classification/typology and concept definitions. Clarifying concepts by putting them into context. Thus providing orientation and serving as a reference tool for individual researchers and practitioners and thereby

Assisting with the exploration of the conceptual context of a research problem and in structuring the problem, thereby providing the conceptual basis for the design of good research, for the consistent definition of variables, and thus the cumulation of research results.

Providing the conceptual basis for the exploration of the various aspects of a program in program planning, in the identification of approaches and strategies, and in the development of evaluation criteria

Information retrieval (IR), database searching, expert systems, and other AI applications

One information system

Several IR systems, switching language. Support the coordination or combination of several databases in the same area to facilitate access to multiple databases.

Assisting readers in understanding text

Assisting writers with conceptualizing a topic and with finding the proper term

Translation

Language learning

In each case specify the intended audience

**If purpose is IR specify**

Information system(s) in which the vocabulary is to be used

Type of objects to be retrieved (text documents, images, people, etc.)

Use of the vocabulary

Vocabulary control in indexing and searching (controlled vocabulary)

Vocabulary control only for searching. Assist with clarifying a search topic and assembling all applicable concepts and terms, whether searching with a controlled vocabulary of free-text.

IR technique(s) (such as: printed index, computer search system). Support of inclusive (hierarchically expanded) searching

Automated vs. manual indexing or query formulation. Approach to indexing to be supported: Request-oriented vs. entity-oriented

Techniques for eliciting user needs (e.g., menu based on search tree; questions based on facet structure)

1.2 **Relationship to other KOS**, especially standard schemes

1.3 **Summary evaluation** of the vocabulary's adequacy for the stated purpose based on the more detailed analysis as outlined below.

Note:

In the following, links to two textbooks are given in [] as follows:

chapter or section numbers starting with a digit, such as 14.3, refer to   
 Soergel, *Organizing Information*

chapter or section numbers starting with a letter, such as F0.4.3, refer to  
 Soergel, *Indexing Languages and Thesauri. Construction and Maintenance*

2. **Coverage of concepts and terms. Sources, quality of usage analysis**.

2.1 Concepts: scope, breadth of coverage (See also 2.3.1 below)

2.2 Concepts: specificity, depth of coverage

Completeness of coverage at each level of specificity considering all concepts (descriptors and other preferred terms) and descriptors alone [F0.4.3]

Specificity must be adapted to the purpose. Assistance in the choice of terms or the comprehension of text requires many nuances. An IR system for propositions requires high specificity . A bibliographic IR systems may require only low specificity.

2.3 Sources from which concepts and terms are included (natural languages, classifications/thesauri / KOS).

Relationship to other vocabularies, especially standard schemes.

For each source:

2.3.1 Completeness of coverage; all vs. selected concepts; all vs. selected terms for each concept (this includes coverage of synonyms)

2.3.2 Quality of analysis of actual term usage in the source.

2.3.3 Recency

Specifically: Completeness of coverage of the terminology from a given language (English, French, German, Chinese, etc.; the language is the source)

2.4 Augmentation of sources through concepts created in concept analysis [15, C3)]

2.4.1 Are all necessary facets included?

2.4.2 Formation of new concepts arising from semantic factoring and other methods of concept analysis. Specifically: Are the concepts applicable across disciplines? Are the concepts applicable across different societies and cultures?   
(See also 3.4 below)

2.5 Choice of terms

2.5.1 Form of terms - consistency, adherence to common usage.

2.5.2 Appropriateness of selection of preferred terms from among synonyms.

2.5.3 Choice of terms to designate descriptors [F0.4.2] Closeness to user terminology.

2.6 Nature of notation (if none, state that) [D4]

3. **Conceptual analysis and conceptual structure. Terminological analysis**

3.1 Quality of conceptual structure [14, C1]

Types and degree of differentiation of conceptual relationships included:

3.1.1 Expression of concepts through elemental concepts (closely related to definition)

3.1.2 Hierarchical relationships (polyhierarchy)

3.1.3 Associative relationships

3.1.4 Rich set of semantic relationships (full-fledged ontology)

Completeness and correctness of conceptual relationships included.

3.2 Quality of definitions, explications, scope notes (correctness, detail, clarity). [C3]

3.3 Completeness of terminological relationships.

Does the thesaurus / KOS contain terms that are synonymous or quasi-synonymous without indicating the relationship?

4. **Use of precombination in the index language** (cuts across 2 and 3) [14, 15, C2]

4.1 To what degree are descriptors precombined?

4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index? Built by the indexer? Updating characteristics.

Are precombined descriptors designated by an independent symbol or a string of symbols? Citation order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to 5)

5. **Access and display**. **Format of presentation of the vocabulary**

Consider for each format access/retrieval by concepts versus access/retrieval by terms

Access can be provided through arrangement in a printed document or through a computerized search system.

5.1 Format of printed document

5.1.1 Overall format [D1]

Thesaurus / KOS parts and information given in each, connections between them.

Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?

5.1.2 Display of conceptual relationships

- through arrangement [15.5.2, C2, D3]

- through cross-references [D3.1.1,1]

- through descriptor-find index [15.5.1, D3.6]

How well does the display reflect the conceptual analysis (e.g., sequence of concepts on some hierarchical level) [D3.1.2]

5.1.3 Display of terminological relationships. Format of alphabetical index [C5]

5.2 Access through computer systems. Retrieval of concepts and terms. Navigation. Format of on-line displays

5.2.1 Overall format. Available windows and their relationships

5.2.2 Display of conceptual relationships, esp. hierarchy. Localized hierarchical chains vs. entire hierarchy. Overviews and total hierarchy. Expandable levels vs. expanded or expand-all option. Graphical displays, concept maps. Are cross-references active hyperlinks? Is there an online descriptor-find index.

5.2.3 Access by words and phrases. Is the thesaurus / KOS database searchable? How does the search work. What is searched? Just the term itself, synonyms, scope notes, all cross-references (not good!)?

5.3 Format of machine-readable form (if any). What standard is followed

5.4 Detail of keeping records of the origin of information included in the vocabulary.

6. **Updating**

**KOS Analysis Template for DDC**

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| 1. **Purpose**  1.1 **Information system** or type of information system in which to be used  *Bibliographic information system. Intended for public and school libraries.*  1.2 **Intended for** controlled vocabulary indexing  or query term expansion □ [Ch. 12, Introduction]  1.3 **Type of file and search mechanism** for which originally designed  Shelving  Card catalog □ Online system □ (Now promoted for Web subject directories) |
| 2. **Coverage and designation of concepts. Coverage and format of terms**  2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts  *Universal — covers all of knowledge. But focus on Western culture, esp. US.*  2.2 **Concepts: Specificity**, depth of coverage. (Section16.2.2). Coverage at each level of specificity.  *Medium specificity. Would need closer analysis by subject area. Geography table quite specific.*  2.3 Are all needed **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)  *Some general concepts included in the general tables and the in-schedule tables. Many others not included by themselves but only as components in one or more precombined descriptors. Completeness of explicit and implied facets? Answer would require extensive analysis.*  2.4 **Terms**: Completeness of coverage (completeness of lead-in vocabulary). Recency of terms  *Some lead-in synonyms included in the alphabetical index. How complete? Would need extensive analysis!*  2.5 **Form of terms**: Consistency, adherence to common usage. *Terms seem appropriate. Many classes cannot be expressed by a simple term but need a phrase devised by the editor.*  2.6 **Nature of notation** (if none, state that). [Section 15.5.2] *Decimal, highly expressive (with some exceptions).* |
| 3. **Terminological and conceptual analysis and conceptual structure**.  3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Fill in 3.1.1 - 3.1.3)  3.1.1 Expression of concepts through elemental concepts (closely related to definition)  *For enumerated compound concepts: Sometimes done implicitly in the relative index. For precombined descriptors constructed according to DDC rules: Done by the indexer.*  3.1.2 Hierarchical relationships (polyhierarchy) (Shown by arrangement or Broader Term / Narrower Term X-ref)  *Monohierarchical. A few additional BT/NT through cross-references. Many hierarchical relationships im-plied by the relative index (Example: The classes shown under Blind).*  3.1.3 Associative relationships. (Implied by physical proximity in the arrangement or explicit Related Term X-ref) *Some explicit cross-references*  3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).  *Many notes throughout the schedules and in the Manual. Mostly usage notes explaining the difference between classes or instructions on how to form new precombined descriptors. A few definitions*  3.3 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship? *Not a problem in a classification like DDC.* |
| 4. **Use of precombination in the index language** (concerns both 2 and 3) [14, 15, esp. 15.4]  4.1 To what degree are descriptors precombined?  *DDC can be used with a medium to high degree of precombination, depending on how many new precombined descriptors the indexer builds.*  4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?  *Medium degree of enumeration in the schedules, some addl. precombined descriptors in the index.*  To what extent can the indexer build additional precombined descriptors?  *To a large extent. Libraries differ in their use of this option.*  Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to 5) [Section 15.5.2]  *Enumerated precombined descriptors have their own independent symbol (which sometimes is constructed using notation components from tables). Combination order is fixed. The components completely determine the place of a precombined descriptor built by the indexer.* |
| 5. **Access and display**. **Format of presentation of the vocabulary**  Consider for each format access/retrieval by concepts versus access/retrieval by terms.  Access can be provided through arrangement in a printed document or through a computer search system.  5.1 **Format of printed document** (Fill in 5.1.1- 5.1.3)  5.1.1 Overall format: Thesaurus / KOS parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?  *Introduction (v.1), Tables (v.1), Schedules (v.2+3), Relative Index (v.4), Manual (v.5)*  *Need to go back forth between schedules and manual, otherwise reasonably helpful.*  5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)  - through linear arrangement or graphical display [Section15.5.2]  *In the tables and schedules.*  - through cross-references [Section 14.1]  *In the tables and schedules.*  - through descriptor-find index [Section 15.5.1]  *The relative index combines the functions of an alphabetical index and a descriptor find index of sorts.*  How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).  *Usually the sequence of classes makes good sense.*  5.1.3 Display of terminological relationships (Synonymous Term)  *Terminological relationships are displayed only in the relative index, which gives the lead-in term and points to the appropriate class number.*  5.2 **Access through computer system**. Navigation. Format of on-line displays  *This would be an analysis of Dewey for Windows. Not required here.* |

**KOS Analysis Template for LCC**

For some items, a section number from Soergel, Organizing information is given in ()

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| 1. **Purpose**  1.1 **Information system** or type of information system in which to be used  *Bibliographic information system. Intended for academic and research libraries and large public libraries.*  1.2 **Intended for** controlled vocabulary indexing  or query term expansion □ (Ch. 12, Introduction)  1.3 **Type of file and search mechanism** for which originally designed  Shelving  Card catalog / printed index □ Online □ |
| 2. **Coverage and designation of concepts. Coverage and format of terms**  2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts  *Universal - covers all knowledge. But focus on Western culture, esp. U. S.*  2.2 **Concepts: Specificity**, depth of coverage (Section16.2.2). Coverage at each level of specificity.  *Level of specificity varies (even among similar entities - e.g. 5 number countries vs. 20-number countries*)  2.3 Are all necessary **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)  *Some facets are reflected in general and local tables. Whether all facets for a subject, such as education, are included is impossible to say without extensive analysis because the facets are not explicit*.  2.4 **Nature of notation** (if none, state that) (Section 15.5.2) *Alphanumeric notation, expressive on first two levels (two letters), then simply ordinal, at the very bottom it is again expressive ( as in 675.P6 Prison libraries)*  2.5 **Terms**: Completeness of coverage of terminology (completeness of lead-in vocabulary). Recency of terms  *No attempt at covering terminology. Terms often old.*  2.6 **Form of terms**: Consistency, adherence to common usage. *No attempt to use common terminology. Terms often created for precise meaning of class.* |
| 3. **Terminological and conceptual analysis and conceptual structure**.  3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Heading for 3.1 - 3.3)  3.1.1 Expression of concepts through elemental concepts (closely related to definition)  *Explicit only where tables used or where the semantic factors are obvious from the hierarchy*  3.1.2 Hierarchical relationships (polyhierarchy). (Shown by arrangement or Broader Term / Narrower Term X-ref)  *Monohierarchy with very few cross-references (cf.) for hierarchical relationships not shown by arrangement*  3.1.3 Associative relationships (Implied by physical proximity in the arrangement or explicit Related Term X-ref)  *Very few Related Term cross-references, subsumed under designation cf.*  3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity).  *Very few usage notes*  3.4 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship? *Not a goal in LCC*. |
| 4. **Use of precombination in the index language** (concerns both 2 and 3) (Ch. 14, 15, esp. 15.4)  4.1 To what degree are the final descriptors assigned to documents, whether enumerated or built by the indexer, precombined? *Highly precombined*  4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?  *Highly enumerated (more than Dewey)*  To what extent can the indexer build additional precombined descriptors?  *Indexer can build more precombined classes by adding components from local and global tables*.  Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to the arrangement of a classification) (Section 15.5.2)  *Precombined descriptors have their own independent symbols. Combination order actually used by the editor varies. Often standard sequence of countries is used, with exceptions.* |
| 5. **Access and display**. **Format of presentation of the vocabulary**  For each format consider access/retrieval by concepts versus access/retrieval by terms.  Access can be provided through arrangement in a printed document or through a computer search system.  5.1 **Format of printed document** (Heading for 5.1.1- 5.1.3)  5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?  *Divided into individual volumes by main class. Each volume has outline, main schedule of classes, sometimes global (volume-wide) tables, and an alphabetical index. Has outline to the entire classification, but no overall alphabetical index.*  5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)  - through linear arrangement or graphical display (Section 15.5.2) *Almost exclusively*  - through cross-references (Section 14.1) *Very few*  - through descriptor-find index (Section 15.5.1) *No*  How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down).  *Concepts are arranged in a meaningful sequence in the major hierarchical sequence, but on the lowest level there is often alphabetical arrangement of subjects. In the Bibliographies by subject part in Z, subjects are arranged alphabetically.*  5.1.2 Display of terminological relationships (Synonymous Term) *No lead-vocabulary included*  5.2 **Access through computer system**. Navigation. Format of on-line displays  *Classification Plus. Searchable and cross-references are hyperlinks. (More detailed analysis omitted.)* |

**KOS Analysis Template for LCSH**

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| 1. **Purpose**  1.1 **Information system** or type of information system in which to be used  *Bibliographic information system. Intended for academic and research libraries and large public libraries.*  1.2 **Intended for** controlled vocabulary indexing  or query term expansion □ (Ch. 12, Introduction)  1.3 **Type of file and search mechanism** for which originally designed  Shelving □ Card catalog  Online system □ |
| 2. **Coverage and designation of concepts. Coverage and format of terms**  2.1 **Concepts: Scope**, breadth of coverage. Recency of concepts  *Universal - covers all knowledge. But focus on Western culture, esp. U. S. Updated regularly*  2.2 **Concepts: Specificity**, depth of coverage (Section16.2.2). Coverage at each level of specificity.  *Quite specific in many subjects, down to proper names (individual as opposed to abstract concepts).*  2.3 Are all necessary **facets** included? Concepts formed in semantic factoring and facet analysis? (S.a. 3.1)  *Covers concepts as found in the literature, no semantic factoring done.*  2.4 **Nature of notation** (if none, state that) (Section 15.5.2). *No notation*  2.5 **Terms**: Completeness of coverage of terminology (completeness of lead-in vocabulary). Recency of terms  *Aims at having a large lead-in vocabulary; finding out actual coverage would require extensive study. Many terms outdated*.  2.6 **Form of terms**: Consistency, adherence to common usage. *Main heading – subheading combinations. Uses both direct and indirect form for main headings.* Lots of inconsistencies |
| 3. **Terminological and conceptual analysis and conceptual structure**.  3.1 **Quality of conceptual structure** (14): Facet analysis. Types and degree of differentiation of conceptual relationships included. For each type indicate the completeness of inclusion. (Heading for 3.1 - 3.3)  3.1.1 Expression of concepts through elemental concepts (closely related to definition)  *Some semantic factoring implied by main heading – subheading structure*  3.1.2 Hierarchical relationships (polyhierarchy). (Shown by arrangement or Broader Term / Narrower Term X-ref)  *Quite a few descriptors have more than one broader term, shown either as BT or through indention*.  3.1.3 Associative relationships (Implied by physical proximity in the arrangement or explicit Related Term X-ref)  *Many RT cross-references*  3.2 **Quality of definitions**, explications, scope notes (correctness, detail, clarity). *Very few scope notes.*  3.4 Completeness of terminological relationships: Does the vocabulary contain terms that are synonymous or quasi-synonymous without indicating the relationship? *All alternate forms of multi-word main headings (differing in sequence of component words) are covered. Some quasi-synonym pairs as separate descriptors.* |
| 4. **Use of precombination in the index language** (concerns both 2 and 3) (Ch. 14, 15, esp. 15.4)  4.1 To what degree are the final descriptors assigned to documents, whether enumerated or built by the indexer, precombined? (*Medium to) high precombination*  4.2 To what extent are precombined descriptors enumerated and/or given in the alphabetical index?  *Many precombined descriptors are enumerated as main headings or as main h. – subheading combinations*  To what extent can the indexer build additional precombined descriptors?  *The indexer can build precombined descriptors by adding a standard subheading and/or a geographical term.*  Are precombined descriptors designated by an independent symbol or a string of symbols? Combination order free or fixed? To what extent do the components of a precombined descriptor determine its place in the arrangement? (Relates also to the arrangement of a classification) (Section 15.5.2)  *The “symbols” are the terms themselves. Many multiword main headings reflect the conceptual components through individual words, others, like Ships, do not. A main heading – subheading combination reflects its components to a degree. Combination order is affected by direct or indirect order of words in a multiword main heading and by choice of what is main and what is sub (Quality control – steel or Steel – quality control).* |
| 5. **Access and display**. **Format of presentation of the vocabulary**  For each format consider access/retrieval by concepts versus access/retrieval by terms.  Access can be provided through arrangement in a printed document or through a computer search system.  5.1 **Format of printed document** (Heading for 5.1.1- 5.1.3)  5.1.1 Overall format: Thesaurus parts and information given in each, connections between them. Is the overall format clear and helpful for finding the appropriate concepts and terms or notations in indexing and query formulation?  *5 volumes, alphabetically arranged*  5.1.2 Display of conceptual relationships (Broader Term, Narrower Term, Related Term)  - through linear arrangement or graphical display (Section 15.5.2):   *Main heading,, under that indented main heading – subheading combinations.   Often another level of indention when a second subheading is added*  - through cross-references (Section 14.1) *BT/NT and RT cross-references*  - through descriptor-find index (Section 15.5.1) *No*  How well does the display reflect the conceptual analysis, e.g., sequence of concepts on the same hierarchical level (sequence of the children of a concept, that is, the concepts one level further down). *N/A*  5.1.2 Display of terminological relationships (Synonymous Term). *USE / UF*  5.2 **Access through computer system**. Navigation. Format of on-line displays  *Classification Plus. Searchable and cross-references are hyperlinks. (More detailed analysis omitted.)* |