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Concept analysis in thesaurus development: Prevention concepts in AOD 3.

Concept analysis is perhaps the most important and certainly the most difficult task in thesaurus development. This presentation will address this task by discussing an example, the analysis and structuring of prevention concepts in the Alcohol and Other Drug Thesaurus, third edition. The completely revised structure is based on a careful analysis of the relevant literature, using facet analysis to clarify many confusions. Most concepts are defined in scope notes. Prevention concepts are often culturally and politically charged. Concept analysis can help to crystallize commonalities and differences. An international AOD (or ATOD) Thesaurus that is based on cross-cultural analysis, working out commonalities of definition and structure yet maintaining differences with clear explication, might increase comparability of research results and facilitate communication among program planners and policy makers from different countries.

<http://etoh.niaaa.nih.gov/AODVol1/Aodthome.htm>

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Thesaurus as “conceptual infrastructure”

Assist researchers and practitioners with problem clarification —

provide the conceptual basis for the design of good research and implementation and for good query formulation. Includes help with

exploring the conceptual context of a research or practical problem — a study, policy, plan, or implementation project

and with

structuring the problem.

Examples of specific functions:

Present the issues in a field or application area in a coherent framework.

Assist in problem-solving: Assist in the exploration of the dimensions of a problem and aspects to be considered in its solution; provide a classification of approaches to solving a specific problem.

Provide classification and **consistent definition of variables for research / of evaluation criteria for practical problems**, thus enhancing the comparability of research and evaluation results and making research more cumulative.

Implications for thesaurus structure

Facets

Elaborate the different aspects of a domain

“Untangle thinking”

Helpful even for experts for a better understanding of a domain

Definitions

Both need careful study of relevant literature

Example

Prevention concepts in AOD 3

J **prevention, treatment, and
maintenance. health care**

JA . **general prevention, treatment, and
maintenance concepts**

JB . **prevention**

JB4 . . **prevention goals**

JC . . **basic prevention categories**

JD . . prevention model

JE . . prevention strategy, program, or service

JF . . **prevention by sponsor or setting**

JG . . **prevention approach**

JH . . health-related prevention

JJ . . intervention (persuasion to treatment)

JK . . prevention barriers

JL . **treatment and patient care**

JM . . patient care management

JN . . patient assessment and diagnosis

JP . . treatment and maintenance

JQ . **health care area**

JS . **health care delivery and administration**

JT . . health care program or facility

JU . . health care administration

JV . . health care economics

JZ . **counseling**

JB4	prevention goals
JB4.2	. intermediate prevention goals
JB4.4	. prevention of disorder
JB4.4.2	. . prevention of new cases of disorder
JB4.4.2.2	. . . prevention of first incidence of a disorder
JB4.4.2.2.2	 prevent the start of etiologic sequence
JB4.4.2.2.4	 halt the progression of an etiologic sequence
JB4.4.2.4	. . . prevention of later incidences of a disorder
JB4.4.2.6	. . . delay the onset of disorder
JB4.4.4	. . reduce existing cases of disorder
JB4.4.6	. . reduce duration or severity of disorder
JB4.4.6.2	. . . reduce the duration of disorder
JB4.4.6.4	. . . reduce the severity of disorder
JB4.4.8	. . comorbidity prevention
JB4.6	. prevention of disorder consequences
JB4.6.2	. . harm reduction

- JC** **basic prevention categories**
- JC2 . **prevention by timing of the intervention**
- JC2.2 . . primary prevention
- JC2.4 . . secondary prevention
- JC2.6 . . tertiary prevention
- JC4 . **prevention by scope of recipient group**
- JC4.2 . . universal prevention
- JC4.4 . . targeted prevention
- JC4.4.2 . . . selective prevention
- JC4.4.4 . . . indicated prevention
- JC4.6 . . prevention directed at groups

universal prevention

- SN Directed at the general public or a population group that has not been identified on the basis of individual risk. The intervention is desirable for everyone in that group.

targeted prevention

- SN Targeted at subgroups of the population or at individuals who are at high or very high risk. There are two subordinate categories which are distinguished by the specificity of targeting (the precision of selection into the recipient group), the degree of risk, and the warranted cost per recipient.

JG prevention approach

- JG8 . prevention approach by locus of change
- JG10 . . individual-level prevention
- JG12 . . environmental-level prevention
- JG14 . . multi-level prevention

individual-level prevention

- SN Aims to affect individuals' AOD use decisions by effecting change in individuals and their proximal environments, especially their families.

environmental-level prevention

- SN Prevention measures aimed at changing the physical and social milieus that regulate exposure to AOD, influencing individuals' AOD related behavior or mediating the risks that AOD use poses to an individual.

The hard part

The AOD Thesaurus presents a US perspective. It tries to work that out as clearly as possible.

But

Concepts, their interpretation and value connotations are dependent on

culture

policy

language

What to do to support international communication?

- **Collect definitions from many countries.**
- **Articulate commonalities and differences.**
- **Try to reconcile differences.**
In the best of all worlds: Come up with a definition that everybody likes better.
- **Create an international umbrella thesaurus database that documents the discussion / reasons for decisions and that clearly articulates the remaining differences.**
- **Every country or application can then extract its own thesaurus**

Proposal

An international thesaurus on Drugs and Drug Addiction

Elements

Domain and scope

Language resources

Information technology

Domain and scope

Alcohol and Other Drugs.

Addiction

Prevention

Broadly conceived

International, multilingual

European countries, US, Australia, . . .

Many partners

Leverage investment for multiple functions

Multiple functions

Conceptual map of the field and communication tool across disciplines, languages, and cultures

Harmonize statistics and research and evaluation results

Provide access in the user's own language to information across databases in many countries

Support resource sharing, esp. shared indexing, and resulting economies

Support translation of documents by providing field-specific translation among many languages

Format

An integrated thesaurus database

Participants can extract their own specialized thesauri adapted to their needs

Agreement as far as possible, but respect national/cultural and institutional differences

Integrated thesaurus database serves as a bridge

Updates to individual thesauri made through the central database

Sources

DrugScope Thesaurus

Alcohol and Other Drug Thesaurus

ToxiBase Thesaurus

**As many other thesauri, term lists,
glossaries in as many languages as can
be found**

Language resources

Use

EurodicAtom (the European Union multilingual dictionary) and

EuroWordNet

to map terms from sources in different languages and translate terms where no mapping is found

Feed information back to improve these sources

Information technology

Develop and test a

Web based infrastructure for

**Collaborative thesaurus development and
use**

Partners

ELISAD

SALIS

DrugScope, ToxiBase, . . .

NLM ? (link to UMLS)

**Information science / computer science
university/research institute**