

Indexing and Abstracting



Types of Indexes and Abstracts

Kuang-hua Chen
Department of Library and Information
National Taiwan University
khchen@ccms.ntu.edu.tw



Types of Indexes

- Alphabetical Index
- Author Index
- Book Index
- Citation Index
- Classified Index
- Coordinate Index
- Cumulative Index
- Faceted Index



Types of Indexes (Continued)

- First-line Index
- Hypermedia Index
- Internet Index
- Multimedia Index
- Periodical Index
- Permuted Title Index
- String Index
- Word Index



Alphabetical Indexes

- The arrangement of an index in alphabetical order is the most common method
- The arrangement of subject heading, cross-references, and qualifying terms are also alphabetical
- The major drawbacks are
 - Problem of synonymy
 - Scattering of entries



Author Indexes

- Consist of people, organizations, corporate authors, government agencies, universities
- Authors can be used as an indirect subject approach
 - Authors are strong indicators of subject content (Cleveland 1976)
- Rules for author indexes
 - The number of names allowed for each document
 - Use of full name or initials
 - Use of common names



Book Indexes

- List of words, generally alphabetical, at the back of a book
- Giving a page location of the subject or name
- Books without index are incomplete



Citation Indexes

- A citation index consists of a list of articles, with a sublist under each article of subsequently published papers that cite the articles
 - Author index
 - Subject index
- A cited paper has an internal subject relationship with the papers that cite it



Example of Citation Indexes

- Arts & Humanities Citation Index
- Science Citation Index
- Social Science Citation Index
- CSCI
- CSCD
- THCI
- TSSCI



中國科學引文索引

引文著者①

- ②引文名稱③ [引文類型④]-出版年, 卷(期): 起始頁
來源文章著者⑤ 來源期刊⑥-出版年, 卷(期): 起始頁

①引文著者項: 引文第一著者姓名。團體著者和匿名著者引文此項不著錄。

②引文標識符: 引導每一篇被引文獻。

③引文名稱項: 引文所在的期刊刊名或書名, 其它類型引文此項不著錄。

④引文類型項: 引文類型注釋。引文類型包括期刊文章、圖書、會議文獻、學位論文、報告、專利、標準和其它。引文類型為期刊文章時, 此項省略。

⑤來源文章著者項: 來源文章第一著者姓名。

⑥來源期刊項: 來源期刊刊名。刊名超過 6 個漢字時, 只取前 6 個漢字, 省略部分用“...”表示。



中國科學引文索引 (Continued)

引文著者

- 引文名稱[引文類型]- 出版年, 卷(期): 起始頁
來源文章著者 來源期刊-出版年, 卷(期): 起始頁

例:

王建生

- 化學研究- 63, 4 (1) : 54
張一凡 催化學刊- 94, 5 (2): 30



中國科學引文索引 (Continued)

戴芳瀾

- 中国经济植物病原目录[图书]-58
梁克恭 植物病理学报-94,24(1);90
- 中国真菌总汇[图书]-79
李华 真菌学报-94,13(1);71
林英任 真菌学报-94,13(1);8
刘培贵 云南植物研究-94,16(1);47
王圆 真菌学报-94,13(1);1
张中义 植物病理学报-94,24(1);85
庄文颖 真菌学报-94,13(1);13



Classified Indexes

- Its contents arranged systematically by classes or subject headings
- It is important for scientific purpose
- Layman find classified indexes difficult to use
- The indexes are very valuable in the appropriate environment



Index by Categories

GEOGRAPHIC BREAKDOWNS

BY CENSUS DIVISION

Communications and Transportation
Travel to US, spending by world area of residence, and economic impact, by spending category and State, 1996, annual rpt, 2044-49

Energy Resources and Demand
Electric power plants production, capacity, sales, and fuel stocks, use, and costs, by State, 1997-98, annual rpt, 3164-11

Health and Vital Statistics
Births and birth and fertility rates, by parent and birth characteristics and location, 1993, US Vital Statistics annual rpt, 4144-1

Natural Resources, Environment, and Pollution
Wildlife-related recreation, hunting, and fishing economic impacts, by species and region, 1996, 3506-16.2

Recreation and Leisure
Fishing (black bass) participation, by location and participant characteristics, 1996, 3506-16.3

Veterans Affairs
Hospital capacity, use, services, and mgmt. for VA compared to community hospitals, by location, 1975-97 with projections to 2010, GAO rpt, 26121-763

BY CITY

Agriculture and Food
Peaches production, prices, and use by State, and terminal market prices in selected cities, 1998, annual rpt, 1311-12

Sweetpotato production, acreage, shipments, and prices, for North Carolina and other producer States, 1970s-98, annual rpt, 1311-33

Watermelon production, acreage, shipments, prices and arrivals by city, by State, 1998, annual rpt, 1311-33

Communications and Transportation
Truck rates for fresh vegetables, by crop, growing area, and market, periodic situation rpt with articles, 1561-11

Energy Resources and Demand
Heating oil addition to Strategic Petroleum Reserve, costs and benefits under alternative plans and policies, with data on supply, demand, and movements, 1975-2010, 3338-16

Government and Defense
State and local govt productivity measures, with output, employment, and financial data, for 11 govt services, 1967-92, 6823-34

Health and Vital Statistics
Births and birth and fertility rates, by parent and birth characteristics and location, 1993, US Vital Statistics annual rpt, 4144-1



Coordinate Indexes

- Coordinate indexes allow terms to be combined or coordinated
- Combine two or more single terms to create a new class



Cumulative Indexes

- A Combination or merging of a set of indexes over time
- Apply to journals and to large, important works and are published as separate volumes
- Cumulative indexes are complex and usually are done by teams of indexers
- Require a good deal of editing because of duplications, terminology changes and a need to adjust the depth of indexing



Faceted Indexes

- (activities and operations)
 - . (business and management operations)
 - . (communications activities)
 - . (computer operations)
 - . (educational and psychological activities)
 - . (general activities)
 - . (information and library operations)
 - . (socioeconomic activities)
 - . (technical and manufacturing operations)
- (buildings and facilities)
- (communications media)
- (document types)
 - . (by availability, access, organization)
 - . (by information content, purpose)
 - . (by medium, physical form)
- (fields and disciplines)
- (hardware, equipment, and systems)



First-line Indexes

- Applied to poems
- All the words in the first line of a poem are listed in their alphabetical order
- Another interesting example
 - First-line index for music



Miscellaneous Indexes

- Hypermedia Indexes
 - Allows users to thread their way to what they want through electronic nodes and links between those node.
 - Much more transparent to the user
 - Someone have to make indexing decisions in establishing these nodes and connections
- Internet Indexes
- Multimedia Indexes



Multimedia Indexes

- Open problem?
- New challenge



Periodical Indexes

- Individual indexes
 - Particular journal
- Broad indexes
 - A group of journals



Permuted Title Indexes

- Title index works well for highly specific searching
- Permuted title word indexes are created by systematically rotating information-conveying words in the title as subject entry points into the index



String Index

- An indexer first constructed a title-like phrase
- This string was then coded according to a set of rules, using operators and codes
- All strings would be in normal syntactic form, connected by appropriate prepositions and conjunctions



String Index (Continued)

- PRECIS system
- Each string consisted of three parts: the lead; the qualifier; display
 - Lead. Qualifier
 - Display
 - Coverage of meaning: Qualifier > Lead > Display
- “A document on the evaluation of the professional education of nurses”
 - Example taken from Indexing from A to Z, p.453
 - Nurse
 - Professional education. Evaluation
 - Professional education. Nurses
 - Evaluation
 - Evaluation. Professional education of nurses



NEPHIS System

- Lead term. Context
- “A document on the use of numerical data in the humanities and in the social sciences”
- @Use? of <Numerical <Data>>? in <Humanities? and <Social Sciences? and >>
 - Data. Numerical -. Use in Humanities and Social Sciences
 - Humanities and Social Sciences. Use of Numerical Data
 - Numerical Data. Use in Humanities and Social Sciences
 - Social Sciences and Humanities. Use of Numerical Data



Word Index

- Individual names and word in documents
- Bible concordance



KWOC, KWIC, KWAC

KWOC	TERM	FREQ	ITEM ID
	chips	2	doc2, doc4
	computer	3	doc1, doc4, doc10,
	design	1	doc4
	memory	3	Doc3, doc4, doc8, doc12
KWIC	chips/	computer design contains memory	
	computer	design contains memory chips/	
	design	contains memory chips/ computer	
	memory	chips/ computer design contains	
KWAC	chips	computer design contains memory chips	
	computer	computer design contains memory chips	
	design	computer design contains memory chips	
	memory	computer design contains memory chips	



Abstract

- Abstract
 - The ancient peoples attached content abstracts to papyrus rolls
- Summary
 - Runners returned from battle with summaries of the events



Classify Abstracts by Function

- Indicative Abstract
- Informative Abstract
- Critical Abstract



Classify Abstracts by Method

- Excerpt-based abstract
- Generation-based abstract



Classify Abstract by Use

- Discipline-oriented abstract
 - Is written for a specific area of knowledge
- Mission-oriented abstract
 - Is written to support application activities
 - Is defined in terms of an assignment rather than a subject area
- Slanted abstract
 - User-oriented



Classify Abstract by Author

- Author
- Subject area expert
 - e.g. Excerpta Medica
- Professional abstractor



Structured Abstract

- Use predefined template to store abstract in a structured form
- Sample predefined template
 - Background
 - Aim
 - Method
 - Results
 - Conclusion



Indicative Abstracts

- Also known as descriptive abstracts
- Contain significant information and specific data
 - “The number of onions grown in California was determined and reported in this article”
- Is shorter, is written in general terms, and does not give a progressive account of the paper’s development
- Is never expected to replace the paper itself
- Shows the purposes and the results of the paper



Informative Abstracts

- Try to present as much quantitative and qualitative data as possible
- Is the most useful for documents reporting on experimental investigations
- Is the skeleton of the document itself with all the flesh missing
- Cover four essential points
 - Objective and scope of the work
 - Methods used
 - Results
 - Conclusions



Critical Abstracts

- A critical abstract makes a value judgment or editorial comment
- Editorial or abstract
- An idea in a few abstractors
 - Good abstract avoids the bias and personal viewpoint of critical comment
- Critical abstract can be powerful tool
 - Heavily quality filtering
 - Used to general papers with broad overviews



Example: Educational Administration Abstracts

- Abstract Numbers: In bold, for handy reference
- Subject Classifications
- Descriptors: In bold; identify subject immediately
- Alphabetical-by-Author Citations: Complete bibliographic details
- Abstracts: Concise summary of contents
- Cumulative Indexes: The fourth issue each year prints the cumulative author and subject indexes for the year, along with a current "Source List."