MIND MAP FOR LEARNING INDEXING

Sabitha Mani

Christ University, Bangalore, Karnataka, India.

Abstract: Mind map is a diagram used to visually organise an information. It shows the relationship of piece among whole. It often created around a single concept. In 1950's Allen M Collins developed a theory on human learning and development based on mind mapping. We can use mind map as a good tool for teaching and learning indexing. In this paper we are trying to mind map different concepts related to indexing.
Keywords: mind map, indexing, citation.

I. INTRODUCTION

Indexing refers to organization of a data according to a specific need or plan. The dictionary meaning is simply an indicator pointing to a reality. The history of indexing started before the printing era. Example for this is hyperlinks. An indexing an alphabetical list of keywords contained in the text of a book or other lengthy written articles. It includes pointers to where those keywords or concepts are mentioned in the book typically page numbers but sometimes footnote numbers, chapters or sections. The index can be found at the end of the work. The important facts to be considered are the idea of indexing, history, types, purpose, benefits and the concept indexing and abstracting.

The history of indexing first starts from the time of handwritten documents. In the time of pre – printing era book indexing had limited use as no manuscripts were identical nor with the same pagination. The indexes of that time are: Table of contents, Subjects phrases, Persons, Concepts, Laws, logic.

Concordance an alphabetical list of words in a text or texts usually with citations of passages concerned or with context. Modern printing was started at France in 1440.Printed book indexes appeared in the 1460 sin the beginning of printing era. 'complete concordance to the holy scriptures first published in1737 by Alexander Cruden.Samuel Jhonsons. A dictionary of English Language 1755 was the first index to the English language. The index society was formed in London in 1877 with the aim of creating a general index of universal literature. In 1957 the society of indexers were formed.

In US William Frederik Poole began his index to periodical journals.it was 154-page index. As a beginning to the modern indexing Paul Outlet from Belgium began universal bibliographic repertory. In 1934 he wrote about a system by which knowledge would be projected in one's individual screen. So that in his armchair anyone could be able to contemplate the whole of creations or part of it.

Method of mind mapping

Mind mapping is putting together all the factors related to a topic in a diagrammatic form. We can enter each topic and also the subtopics and all the matters we wanted to relate to the topic.

Mind map

First, we should write the core theme at the centre. For indexing we can write indexing at the centre. We must learn a brief history of indexing, so we could place history of indexing with it

Types of Indexing

Indexing has been differentiated based on its nature such as; author-based indexes, subject based indexes, person-based indexes, place-based indexes, concept-based indexes, phrases-based indexes and chronological indexes. Wikipedia is also a type of indexing. In first indexing was only for a group.

Citation Indexing

Citation Indexes was another type of index which the index of the presence of another work is. It is important for researchers. Example new testament has citations from old testaments. Since 12th century beginning from Hebrew religious literature now it reaches to all references, bibliography etc. Legal citations were started. A list of all the authorities citing a particular case, statute or other legal authority. Shepard's citation was the mother of all citations. In 1873 Roberto Bua SJ made a computational linguistics about a book on Thomas Aquinas. It consists of11000000 cards and every word is analysed. More than 20000000 lines of text,70000 pages and 56 books. It took 30 years to complete the work.

Inspired by pharmacologist historian Chauncey Leak in 1951 Eugene Garfield (ISI) 1960 conducted a thorough analysis of review articles and their cited references. Reference imply that an author has found a published theory or data is useful in some way. It also shows intellectual debt or in a way owe to that work. It shows a complete linkage between their current research and prior work.

Purpose and Benefits

The purpose of indexing is to make easier discovering truth by building on previous discoveries. It helps in faster learning, acknowledging, finding prominent persons, subjects etc and the interconnection between the studies. When we look on the benefits of indexing the table of

contents and abstract gives a full picture of the study or article. The online
collections increase the visibility of perceived quality of our publication. It's also a matter of pride that work is cited.

Mind map
The next step is to add the next topic to be learned that is types of indexing.
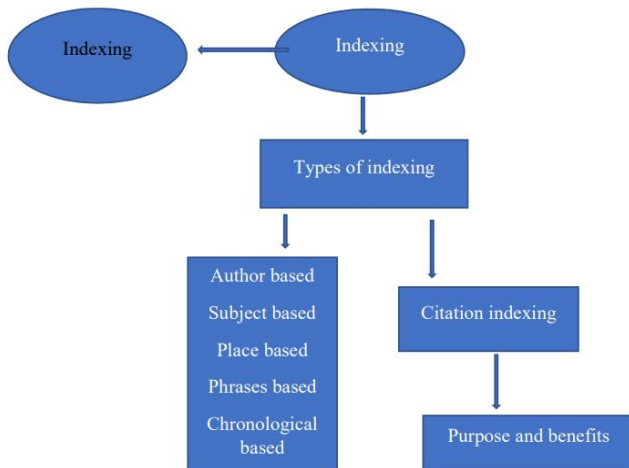
INDEXING AGENCIES
There are many citation indexing agencies. There is different type of indexing agencies such as subject specific indexing, author specific or title specific, keyword, abstract, journal title,
affiliation and year based. The first indexing agency was started in 1960 by Eugene Garfield, its name was The Institute for scientific information Metadata. Some of the important indexing agencies are ISI web of science, Scopus, Ulrich periodicals, OCLC, Google Scholar, ABDC, Miar, Index Copernicus, Bielefeld academic, Search Engine.

Evaluation Criteria for Indexing a journal.
Common Criteria for Indexing a Journal
Scientific Indexing follows comprehensive criteria for journal indexing and impact factor calculation on the following basis:

Quality of publication
Citation counts: The number of articles cited for respective year of that journal.
Journal discipline: discipline of the journal
Journals estimated importance and relevance of the research field.
The journals presence in various indexing services, directories and listing.
The main and important factor is journal publishing regularity.
Article originality: It is important for getting impact factor.
All published manuscripts must be online and in either pdf format.
Resource will be catalogued on article title level for metadata information.

Manuscript quality or Technical quality
Proper presentation of online and print content.
Maintain the quality of the preprint process like diagrams, colour.
Checking text and page numbers
Checking and ensuring tables, figures, paragraphs, numbers etc.
Checking hyperlinks to reference.
Choosing correct size and layout of the pages.
Ensuring consistent use of capitalization and spelling.
Applying proper numbering mechanics in the article.
Checking format for bibliographic references i.e. according to any of citation style.
Using punctuation consistently.

Presentational quality
Journal website design
Degree of acceptance and presence of journal in the international and national market.
Management bodies for the journal governance -such as editorial board, advisory board, executive board etc.

The international representation of research fellows in the editorial board boosts the score of the journal and it creates a chance to further the journals development

The important factor of editorial quality is the standard composition of presented article manuscripts and adherence to the journal's instructions for its authors.

References and indices should be presented in proper sequencing order. The first five authors should be presented.

Editorial quality
Journals must have ISSN.
Journals must have published at least one issue. Journal must be referred by the member of the editorial board.
The journal should include detailed editorial and author guidelines information regarding manuscript preparation.
The journal editorial data ought to embrace a listing of editorial board members, editorial correspondence addresses etc.
The language of publication.
Online internet publication and its constant maintenance.

Access quality
Journals must have separate web address.
Journals are of international level and must be of open access.

SCOPUS
One of the important indexing agencies is Scopus. The evaluation criteria for Scopus indexed journals are
Journal selection criteria
Consist of peer reviewed content and have a publicly available description of the peer review process
Be published on a regular basis and have an international standard serial number (ISSN) as registered with the is an International centre.
Have content that is relevant for and readable by an

international audience, meaning: have reference in roman script and have English language abstracts and titles
Have publicly available publication ethics and publication malpractice statement Criteria for evaluation(five)
#journal policy: it includes convincing editorial policy, type of peer review, diversity in geographical distribution of editors, diversity in geographical distribution of authors
#content: academic contribution to the field, clarity of abstracts, quality of and conformity to the stated aims and scope of the journal, readability of articles
#journal standing: citedness of journal articles in Scopus, editor standing
#publishing regularity: no delays or interruptions in the publication schedule
#online availability: full journal content available online, English language journal home page available, quality of journal home page.

Title re- evaluation
Scopus run the re-evaluation program to determine journal quality which identifies outlier and underperforming journals. (3 ways)

1.It uses six metrics and benchmarks for re-evaluation of all journals in the database must meet year after year. If a journal fails to meet any of the six benchmarks for two consecutive years, CSAB will re-evaluate the journal based on the Scopus title selection criteria. If it does not come up to the criteria the journal will be dis continued.

2.Identifies outlier journals for re-evaluation by running the data analytical tool radar on an annual basis.it identifies journals demonstrating outlier behaviours such as sudden and exponential article output growth, unexplained and sudden changes to affiliation country, or high journal self – citation rates, amongst others. All journals identified by the radar tool will be re-evaluated by CSAB in the year of identification. Review is based on the Scopus title selection criteria and may result in discontinuation of journal from Scopus.

3.Journals for which users, buyers or stakeholders have publication concerns will be added to re-evaluation if the claim is identified as legitimate. The journal will be re-evaluated by the CSAB in the year of identification based on title selection criteria with as potential outcome.

Six metrics and benchmarks

1.self – citation rate greater than or equal to 200% compared to the average in its subject field i.e. when compared to its peer journals.

2.total citation rate less than or equal to 50% compared to the average in its subject fields.

3.citescore less than or equal to 50% compared to the average in its subject fields.

4.number of articles less than or equal to 50% compared to average in its subject fields.

5.number of full text clicks on Scopus less than or equal to 50% compared to average in its subject field.

6.abstract usage on Scopus .com less than or equal 50% compared to the average in its subject fields.

There is a one-year period for improvement.

Radar
In 2017 the radar tool was launched, which is an Elsevier – data analytics algorithm trained to identify outlier journal behaviour in the Scopus database.

Title evaluation process
The international experts on content selection and advisory board continually review new titles using both quantitative and qualitative measures. Only serial titles may be suggested to the content selection and advisory board for inclusion in Scopus. Serials include journals, book series or conference series. Suggestions may be done by publishers, editors, individual researchers and librarians can also suggest titles for Scopus, but they need support publisher or editor. The suggestions should take care of:
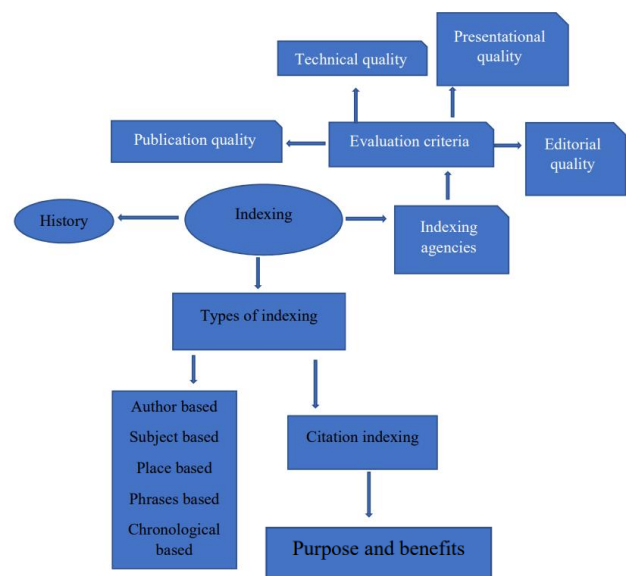
Check the current Scopus title lists to be sure it's not already indexed.
Read the boards statement.
Review the selection criteria.

Mind map
In the mind map we will enter indexing agencies and its evaluation also.

INDEXING PARAMETERS
Indexing parameter is considered as an indicator of journal quality and impact. Indices or numerical system that considered for bringing an order to the journals in accordance with their relevance. Three important indexing parameters are Journal Impact Factor, h-index and g-index.

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They are considered as important measures to arrange journal or other factors based on its utility. Even though this numerical data is considered to arrange the journal in accordance with its importance all these methods have its own drawbacks and we cannot completely rely on it for ranking journals.

The beginning of indexing parameter in 1969 was with the Bibliometrices.it is the measurement of all aspects related to the publication and reading of books and documents. Paul Outlet in 1974 introduced scient metrices which only included science articles. Then Eugene Garfield and deck j de Solla found some measures to calculate the role of a journal. Citation indexing and analysis, a field pioneered by Garfield. It includes SCI, SSCI andAHCI.ISI has a journal citation report, it lists an impact factor for each of the journal that it tracked. It is considered as an indicator of journal quality and impact. There are different types of indexing parameters such as journal impact factor, journal metrics, cite score, Egine factor, M-index, h – index etc. Some important journal indexing parameters are explained below. The beginning of indexing parameter in 1969 was with the Bibliometrices.it is the measurement of all aspects related to the publication and reading of books and documents. Paul Outlet in 1974 introduced scient metrices which only included science articles. Then Eugene Garfield and deck j de Solla found some measures to calculate the role of a journal

II. JOURNAL IMPACT FACTOR

JIF of an academic journal is a measure reflecting the yearly average number citations to recent articles published in that journal. It is considered as proxy for relative importance. The ratio of the total number of citations to the total number of papers in which the acknowledge entity appears can be construed as the impact of that acknowledged entity. The impact factor is calculated using the following formula:

$IF=N/D$ of a journal in its fourth year
D is number of articles published in the year 1 and 2.
N is number of citations to article in the third year.

Impact factor is primarily a number. we can compare it but cannot say which is highest or which is lowest. It cannot be a negative number. It cannot be a negative number. But it can be a big number for example this year it crossed 200.This calculation is based on two things number of articles published by a journal and number of article citations. The article published may be a review or a letter to the editor. For the calculation of IF factor the journal should exist at least three years. And the impact factor is announced only in the fourth year. It includes self-citation both person and journal. It was calculated in a calendar year.

ADVANTAGES
The impact factor is considered as a mathematical calculation which can be used to interpret the quality of a journal.
It is used to identify the utility rate of a journal.
It can be used for comparing different journals.
It is considered as a standard calculation to rank or show the importance of our article when its published in a journal.

It is accepted by almost every part of the world.

DISADVANTAGES

The data is calculated from only one origin so the data may be biased.
It is considered as an English biased citation. The articles on regional languages are not considered
It shows a dominance of medical journals. Relevance of content are sometimes neglected due to the articles are done by important n
Citation could be anything in the journal even a letter to the editor.
Sometimes there may be forced citation

h-INDEX
h-index was introduced by Jorge E Hirsch a physicist can be used by any person. It is a flexible parameter and open, it can be used by anyone if needed. It is a universal parameter. It shows the maximum number of h such that h articles are cited at least h times. It is also a non-negative integer. It has been calculated by a group of authors. The h- index can be calculated in the following ways:
first count the total number of articles published. Then the number of citations obtained by each article. Rearrange them in the descending order. It should be based on the highest number of citations. Calculate how many numbers of articles are cited by that many numbers of articles. Find the largest number among them then it will be the h-index. It can be displayed as in the following figure. It is an author level metric that attempt to measure both the productivity and citation impact of the publications of a scientist or scholar.

ADVANTAGES
h- index is intended to measure both quantity and quality of scientific output.
It excludes the disadvantage other bibliometric indicators such as total number of papers because total number of papers does not account for the quality of the scientific publications.
It includes articles having many publications with few citations each.
h-index have been applied outside of author level metrics
The h- index better capture both productivity and impact in a single metric.so it is widely applied in internet media like you tube.
A successive Hirsh-type-index for institutions has also been devised i e, a scientific institution has a successive h type index of I when at least I researchers from that institutions have an h-index of

DISADVANTAGES
The h- index does not account for typical number of citations in different fields .it states that citation behaviour in general is affected by field dependent factors.
It discards the information contained in author placement in the authors list, which in some scientific fields are important.
The h-index is a natural number that reduces its discriminatory power.
The h-index can be manipulated through self-citations.

The h-index does not provide a significantly more accurate measure of impact than the total number of citations for a given scholar. As by modelling the distribution of citations among papers as a random. g-index was proposed by Leo Egg he in his paper" theory and practise of the g-index" in 2006 as an improvement on the h-index.it is calculated in this way: ranked in the decreasing order of the number of citations that they received ,the g index is the largest number such that the top articles received at least g2 situations. g-index as the highest number of g of papers that together received g2 or more citations. From this definition it's clear that goh. so for all authors or journals, the g score will be higher than h score. But the higher number of citations in the top class the higher the g score will be. This has been put forward by Leo Egg he in 2006 and group of authors as an improvement on h-index to eliminate ate the disadvantages of it.for calculating g- index for example if the number of citations is 81 and the number of publications only 8 times then the g-index is only 8 but if the number of publications is 9 then g index will be 9.

Advantages
Accounts for the performance of author's top articles.
Helps to make more apparent the difference between author's respective impacts
The inflated values of g- index help to give credit to lowly cited or non-cited papers while giving credit for highly cited papers.
It seems promising because it compromises both breadth and depth of a ranking.
g-index can distinguish the performance that got same h-index

Disadvantages
There is no exact proof that g-index is superior to h-index
It is not widely accepted as h-index
One of the problems is citation counts are normal after log transformation, so in the g index we are adding things that should not be after log transformation.
Thus, we could see that each indexing parameters have its own advantages and disadvantages. The most widely used parameter impact factor will be more desirable if it was open for few more non-profit institutions and compare the impact factor obtained by all of them. If all of them shows same ranking, then it will be more reliable and valid. Also, we could add some more characters so that it checks thoroughly the quantity and quality of a factor. (Huang & Chi, 2010).

Mind map
Next we should add indexing parameters together with other concepts in the map
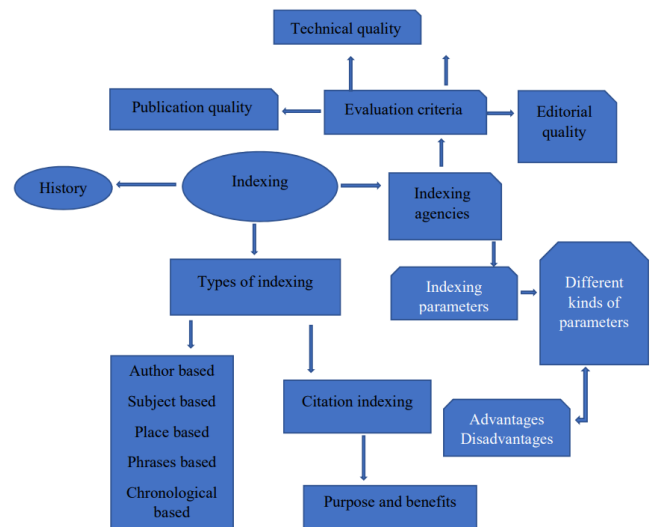
REVIEW METHODS
The review depends upon individuals who are working for a journal, they are mainly chief editor, section editor, journal manager and editorial board. Henry Oldenburg a German theologist who started royal society was the pioneer in this field. He sends manuscripts to experts who could judge their quality before publication. Mainly two types of reviews are there pre – publication review and post – publication review.

Pre – publication Review
Handling editors will decide which matters should be reviewed. The reviewers may be suggested by the authors, invited by the editors or voluntarily enrolled. The pre-publication reviews are mainly desk review, peer review and internal and external review.

Desk review
Desk review is done by an assigned person by the editorial board. This is for special issues and the purpose of review is to check the quality, impact and novelty of the work.

Peer Review
This is method is most commonly used by the academic journals. Two types of peer reviews are there. Closed and Open peer reviews. The closed reviews are again categorised into three single blind, double blind and triple blind. In a single blind review author does not know the reviewer but the reviewer knows the author. In double blind method both the reviewer and author does not know each other and in strong double blind everything about author will be covered from the reviewer. Triple blind review is the method in which both the reviewer, author and even the handling editor will be anonymous to each other. The open review method is the one in which both the authors and reviewers know each other, they can pass arguments between them and even the author knows the reason for rejection.

Internal and External review
In the external review the work is actually reviewed and edited outside the editorial board and in internal review the full power is with editorial board and they do the reviewing
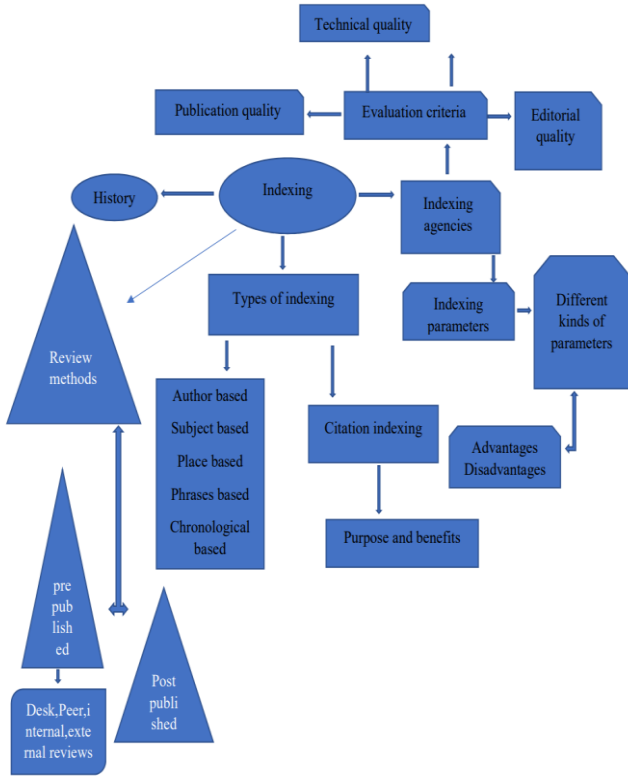
the works.

Post publication Review
Post publication reviews are done after the publication. It can be done in blogs, as comments, letter to the editor or formal post publication review.

Mind map
We should add we should add the review methods used for reviewing the article.

III. OPEN ACCESS PUBLICATIONS
Open access journals are founded as a non-profit open access publisher, organization with a mission to lead a transformation in research communication. It is considered as a mindset that represent the best scientific value, bringing scientists to share work as widely and rapidly as possible to advance science faster and bring benefit to the society. The three important aims of open access publication are:

Accelerated discovery: Researchers can read and build on the work of others without restrictions.

Public enrichment: Much research is paid for with public funds. Open access allows taxpayers to see the results.

Enrich education: It means the teachers and students will be in touch with the most recent researches all over the world.

Mind map
We can add open access publications to the existing map.
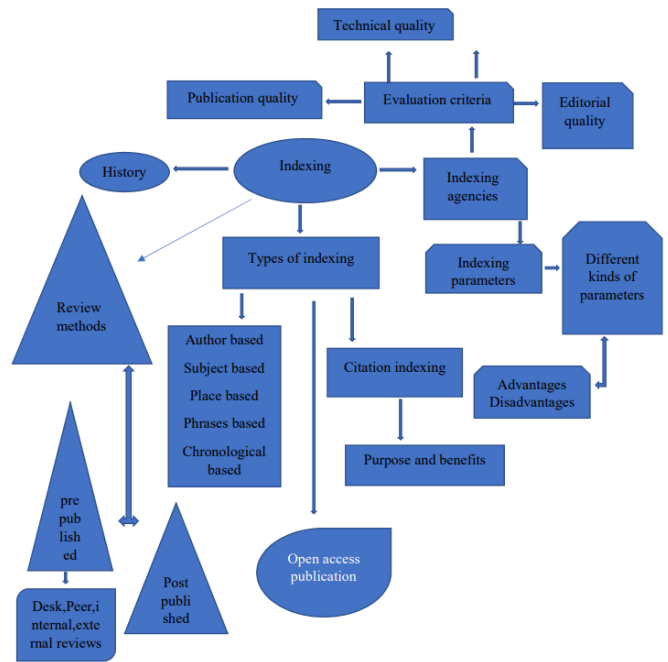
IV. CONCLUSION
Thus, mind mapping can be used as a useful instrument in teaching and learning. Different matters related to a specific topic can be arranged in a specific related order. It can also be represented in a pictorial form.

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