Chapter 4

Evaluation of Dictionaries

4.1 Introduction:

Dictionaries are generally descriptive, reflecting how language is used in society. They can also be prescriptive and advocate for correct usage based on academic standards; thus they standardize written language (e.g., Garner's Modern American Usage). Generally the use of dictionary is to verify (meaning, definitions, spellings of words (orthography), pronunciation (breaking words in syllables to properly spell the words)), etymology and usage of words (origin of words, history of word, regional usage of words, synonyms, antonyms etc. Since varieties of dictionaries are available for the consultation, there is also a need to evaluate dictionaries by every one to fix its usage. In such cases one has to select the criteria. The criteria fixed by many scholars and reference specialist for the evaluation criteria's of the dictionaries are discussed in the following paragraphs.

Dictionaries are very popular reference tools to many like human users in learning and teaching for understanding the correct technical meaning, computer programmers to prepare digital dictionaries for human instant use and providing lexical services, production and marketing of lexical products etc. University of Bielefeld (2010) has communicated the criteria for the evaluation of lexical work in 2010 and the major points discussed in the document were color, polysemous words or homonyms, users (potential users), size (number of pages, average length of definitions given), illustrations (addition of pictures, statement of articles in support to discussions), reliability (comparing set of words with other sources to fix reliability), methodology adapted (method of creation), Authority, age (dichromatic perspective), clarity or blurb (providing hints on other criteria), structure or arrangement and contents, introspection, empirical (corpus based or questionnaire based), representation of language, controlled vocabulary usage, pronunciation, authors or editors, etc

The evaluation of dictionaries deals more specifically with pedagogical and linguistic aspects. The pedagogical aspects concern with contents (conformity with the program;
organization of content to facilitate consultation; adaptation to the students concerned). The linguistic aspects pertain to the relevance and coherence of linguistic elements (including translation, if required) and to sociolinguistic adaptation etc. Dictionaries are also evaluated for their material and socio-cultural aspects. Works submitted in digital format are also evaluated according to criteria established for online type of material or dictionaries.

In the era of information technology online dictionaries are being placed in digital form for the user’s convenience, either free or commercial. The criteria set for the use of online dictionaries though same as of print media as discussed above in this chapter but there is few additional criterions defined like navigation, contents, appearance, animation, durability, easy accessibility, availability, download time, time for searching, hyperlinking of similar terms, cluster forming, navigation of lexical resources, multimedia usage for right pronunciation, etymology coverage, color usage, no popup (unnecessary advertisement), sponsored, etc. Closet-Crane and Perry-Hanes and Cassell & Hiremath, (2009), discussed the criteria for the evaluation of dictionaries like: authority and understandability are the prime criteria for evaluating word sources. Scope (Coverage, features, etymology, pronunciation, illustrations), quality of content (accurate, up to date information, depth), authority and reputation, currency (new additions and deletions), arrangements, usability, appropriateness to audience, format (print, online, digital), cost are the other points of criteria discussed by them. Swanwoepoel (2008), De Jong and Van der Geest (2000) elaborated the criteria like specificity, exhaustiveness, and explanations in their communication.

4.2 Trends in Publishing Dictionaries:
Initially the print versions were popular but since use of computers a different trend of publishing dictionaries is very popular i.e. electronic or on line dictionaries. The print media has some advantages but also not free from limitations. The advantages of print media dictionaries are:

- students do not need any electronic device to use them; portability
- the effort made to look up a word may influence the retention
Disadvantages:

- They are easily torn or damaged
- The content of a dictionary depends on its size; the size and weight of a dictionary

4.3 Electronic or Online Dictionaries:

Tickoo (185) mentions two basic criteria which help to make use of dictionaries i.e. range of inclusiveness and price. Even if the price is not directly related to learning English it is still very important together with quality of paper, printing and binding. Some users have an access to computer laboratories and are not limited only to paper dictionaries they use electronic and online dictionaries. Advantages and disadvantages of electronic dictionaries can be described as follows:

4.3.1 Advantages:

- they are cheaper
- they are quick and easy to use (search function)
- they contain updated information
- they provide more information (they are not limited by space)
- they provide pronunciation examples, pictures
- students cannot forget the dictionary at home
- the information the entry provides can be adjusted to the level of the students
- students can record their pronunciation and compare it with the dictionary records

4.3.2 Disadvantages

- students need special equipment and computer skills to use them
- when using electronic dictionaries, students may be distracted by other programs
4.4 Evaluation of Dictionaries:

4.4.1 Reasons for evaluation of resources:

Merriam-Webster's Collegiate Dictionary defines the word “evaluate”, which means “to determine the significance, worth, or condition of usually by careful appraisal and study”. The evaluation of information is the process of critically analyzing a document, or information in order to establish its quality or value and decide the credit to give to it. The analysis is done by applying judgment criteria to establish its reliability, authenticity, credibility of the source, the reliability, the validity of the information.

There are many reasons to evaluate the resources including reference. The documents or resources are generated for the specific purpose and use, evaluation criteria helps in assessing the utility and economic parameters. Among the many reasons few prominent are:

- The number of availability of resources and documents is very huge and information growth is very high. Hence it is impossible to refer to all the published literature. Thus it is important to select the best out of all the documents which provides most comprehensive understanding about a subject or topic.
- Some information is false, erroneous, incomplete or misleading: Scientific literature is usually peer reviewed in order to reduce errors. However, there many cases of erroneous documents being published and falsehoods becomes greater in documents that are not peer reviewed such as web sites and many other printed information resources.

4.4.2 Evaluation Criteria Set by Scholars:

The criteria are basis for comparison; a reference point against which other things can be evaluated the ideal in terms of which something can be judged. Jackson (1996) proposed criteria for the evaluation of dictionaries and according to him the main criteria for evaluating dictionaries are vocabulary, word formation, homographs, definitions, lexical relations, pronunciation, grammar, usage, examples, etymology, special features, criticism etc. The criteria are also suggested by Chan and Loong (1999), Chan and
Taylor (2001), Jackson (1996, 2002), Nakamoto (1994), Steiner (1984), Zgusta (1971) etc. However the other criteria covered by them are exhaustiveness or comprehensiveness, value, validity, and findability etc.

Several criteria have been suggested for evaluating dictionaries by different lexicographers also. Barnhart (1969) gave a list of essential features for evaluation and also suggested that they can be treated as “Yard Stick” in evaluating dictionaries. Macmillan (1949) also listed out the criteria’s which includes quality and quantity of information, number of entries, effectiveness of presentation etc. Similarly Read (1963) also narrated set of criteria and estimated on the size of dictionary rather than characters, words or lines etc in dictionary. Gates (1972) also suggested a set of criteria for evaluation of dictionaries based on coverage, usefulness and facility of use. Malkiel (1967) listed range, perspective and presentation as evaluating criteria. Bharati (1991) classified the evaluation criteria’s as internals and externals of a dictionary. Kelkar (1980) also gives a list of components.

From the discussions made by different scholars in respect of evaluation criteria, it seems there is a necessity to distinguish between pure descriptive statements about the design features of dictionaries and evaluation etc, based on the analysis of dictionary evaluation, researcher made a framework consisting of the following parameters as core criteria for evaluating dictionaries: meanings, etymologies, grammatical usage, pronunciations, functions, and syntactical, idiomatic uses, origin of words, history of word, regional usage of words, synonyms, antonyms, color, polysemous words or homonyms, users (potential users), size (number of pages, average length of definitions given), illustrations (addition of pictures, statement of articles in support to discussions), reliability (comparing set of words with other sources to fix reliability), methodology (method of creation), authority, age (dichromatic perspective), clarity or blurb (providing hints on other criteria), structure or arrangement, contents, introspection, empirical (corpus based or questionnaire based), controlled vocabulary usage.
4.4.3 Evaluation Criteria for Online Dictionaries:

The criteria set for the use of online dictionaries though same as of print media as discussed above in this chapter but there is few additional criterions defined like animation, durability, easy accessibility, availability, download time, time for searching, hyper linking, cluster forming, navigation of lexical resources, appearance, content, multimedia usage for right pronunciation, etymology coverage, color usage, no popups (unnecessary advertisement), sponsorer, etc. Authority and understandability are the prime criteria for evaluating word sources. Scope (Coverage, features, etymology, pronunciation, illustrations), quality of content (accurate, up to date information, depth), authority and reputation, currency (new additions and deletions), arrangements, usability, appropriateness to audience, format (print, online, digital), cost are the other points of criteria.

The set criteria for evaluation of dictionaries or similar to those, criteria which are applicable to other reference sources/ works, Louis Shores (1939) in his masterpiece “Basic Reference Books” has mentioned nine distinctive criteria as – authority, scope, treatment, arrangement, bibliographies and special features. Each of the nine criteria has contributed considerably to judge the credibility of the dictionary. In general the criteria used for the Print is also valid to certain extent viz. Authority, comprehensiveness, usability, etc but in addition to the criteria few additional parameters are to be considered while evaluating the on line dictionaries. The following parameters are to be considered.

University of Alaska (http://library.uaf.edu/ls101-evaluation) indicated that for evaluation of online or web resources criteria used are AAOCOCC (Authority, Accuracy, Objectivity, Currency, and Coverage) and useful for all information sources like books, journal articles, web pages, blogs, videos, sound recordings and e-books etc.

1. Authority
   - Can be traced using information about the author or creator (who is responsible for the intellectual content) and his or her credentials. There is a note or paragraph available in the back of the book or on the jacket (cover, jewel case, or supplementary brochure) describing the author's credentials.
2. **Accuracy/Quality**
   - Accuracy appropriate to the topic at hand should be verifiable, in the nature of the presentation, with available supporting documentation, or both, conclusions based on research or actual figures etc. High-quality writing, including good format, grammar, spelling and punctuation, can enhance the appearance of accuracy.

3. **Objectivity**
   - While using any information resource, one must decide whether the information is sufficiently objective for the topic and purpose at hand or whether it is biased.

4. **Currency**
   - Currency is especially important in the sciences where new developments occur frequently. In the arts and humanities, currency needs to be judged as appropriate.

5. **Coverage**
   - Decide whether the information source adequately covers the topic. It is too easy to go with one or two documents that seem otherwise to be of value but which really cover the topic only partly or marginally. Consider and evaluate coverage from one source compares with coverage by other sources.

4.4.3.1 Collocations in Dictionaries

Collocation is a relationship between words; it defines a sequence of words which usually stands together. The electronic version of *Cambridge Advanced Learner’s Dictionary* and many other dictionaries divide words which collocate with a keyword (the word “safety” is chosen as an example) into categories:

- verbs – assure/improve/run for safety,
- nouns – safety belt/ helmet/reasons,
- adjectives – comparative/relative safety,
- types – air/rail/road safety,
- prepositions – in/for/to safety,
phrases - there's safety in numbers.
This categorisation assists in building or developing their sentences. Having decided the
topic and having looked up the keywords, they can learn a range of suitable expressions
for their sentence.

4.4.3.2 Idioms in Dictionaries
An idiom is a fixed expression whose meaning usually cannot be derived from the
meaning of its constituents. Generally monolingual dictionaries offer a solution to this
problem covering the most common idioms and providing their explanations and
situations in which they can be used. As an idiom is not a single word, problems in
finding idioms in a dictionary can emerge.

4.4.3.3 Semantic Relations
To connect synsets in a meaningful way, a set of semantic relations are used that describe
how two concepts increase and/or specialize each other's meanings. Below is a list of
some of the most common semantic relations used in wordnets (Saeed, 1997; Fellbaum,
1998c; Alonge et al.1998). The examples for each relation are gathered from searches
performed in theWordNet3.0 command line application available from
http://wordnet.princeton.edu/wordnet/download/. Most words are part of larger synsets
but are represented as one word only for the sake of clarity.

**Synonymy** Relates two concepts using equivalence in meaning. This is a symmetric and
reflexive relation. Example: kind is a synonym of benign.

**Hyperonymy** Describes a typical is-a relationship, indicating that one concept subsumes
another. Example: interact is a hyperonym of communicate, which is a hyperonym of
utter.
This is a transitive relation, meaning that interact also is a hyperonym of utter.

**Hyponymy** It is the opposite of hyperonymy. Example: utter is a hyponym of communicate.

**Troponomy** Gives a relation between verbs that corresponds to the hyponymy relation,
with some differences.
Antonomy Relates two lexical opposites. Example: evil is an antonym of good.

Meronymy Used to describe a part-whole relationship. Example: pad is a meronym of paw, which is a meronym of feline.

Holonomy Denotes the opposite of meronymy. Example: feline is a holonym of paw.

Entailment Denotes one concept as a prerequisite for another. Resembles logical entailment but with looser restrictions. Example: To snore entails to sleep.

Cause Implies a causal relationship between two concepts. Example: to kill causes something has to die.

4.5 Prominent Criteria Considered for Evaluation of Dictionaries:

4.5.1 Authority:

Authority reflects the responsibility and the accuracy of the lexicographer. The value of dictionary is based on the reputation of the author, of the lexicographers or the compilers. Much of the information on terms, concepts, words, is gleaned from the authentic texts in addition to compilers, degrees, fellowship; list of contributions enables to estimate the high value of the work. In some cases the competition is valued on the basis of the editorial board of the compilation.

4.5.2 Scope:

Scope of the dictionary enables to know the coverage of the meaning and limitation of the usage.

Scope is fundamental to use that source of information. Supplementary facts also help in presenting clear coverage. The conclusive evidence of the dictionary as a source of information comes with the true statement of the scope.

4.5.3 Treatment:

There are certain dictionaries requiring large explanation to the concept or a term and there are some which require limited exapination. For a select group for users the treatment aspect becomes essential. However the original meaning should not be sacrificed in the pretext of the treatment. Dictionary as ready reference tool is desired.
brief and readable explanation with good evidences to clearly understand the concept. Inaccuracy and falsification of information is inexcusable. Particularly in dictionaries as it is one of the standard tool for knowing the spelling, etymology, pronunciation and other grammatical features. The treatment criteria are to be properly taken care of.

4.5.4 Arrangement:

Facility in the use of dictionary is dependent on the systematic arrangement of the words, concepts, and terms. Normally alphabetical arrangement is employed in the dictionaries. Even then there are dictionaries which are arranged on the basis of closeness of the meaning. Meticulous procedures of arrangement, apart from alphabetical arrangement systems are used in some cases.

4.5.5 Format:

The physical make-up of the dictionary has to be attractive, durable with a print on quality papers, generous margin, striking illustrations so as to be appreciated by even a common man.

For the purpose of large scale selling the paperbacks are commonly brought out, whereas for library purposes in order to withstand the repeated use of the sources, the binding should be strong enough.

4.5.6 Special Features:

To consider the large scale use of dictionaries, it is essential to keep in mind some of the distinguishing features. The very printing use of colour, thumb index provision, proper and approximate foot notes, makes an impression in the reader to refer with ease the dictionary. Similarly Bharati (1991) and Steiner (1984) have also discussed the issues of the criteria for fixing the evaluation of lexical or dictionaries. Bharati (1999) in the context of evaluation of dictionaries fix up the criteria. These are viewed from the study
of lexicography where in the value of the work in the form of linguistics features considered qualitatively as well as quantitatively, to assess the worthiness of the work.

Several criteria have been suggested for evaluating monolingual and bilingual dictionaries in the past by various lexicographers in their reviews of dictionaries. Some of the opinions of scholars in relation to fixing the evaluation criteria are discussed as follows:


1) Quantity information.
2) Quality information.
3) Effectiveness of presentation.
4) Number of entries.
5) Occurrence of entries whether in all sources.
6) Number of definitions for given word.
7) Method of defining – statement of synonym.
8) Number of new words and meaning.
9) Use of subject labels and their frequency.
10) Subject limitations in the definitions.
11) Usage and geographical labels.
12) Number of synonyms,
13) Amount of information on each etymological entry,
14) Pronunciation variants.
15) Use of illustrative phases.
16) Completeness of transcription.
17) Placement of information.
A.W. Read (1963) compared four college dictionaries, viz. (1) Webster’s 7th, (2) Standard College, 3) American College and (4) Webster’s New World. Author sets a unique test to estimate the size of a dictionary by- Counting characters rather than words, and lines or pages and left the differences in sheer bulk of dictionary which may result from such variables as (a) line length, (2) type size etc. The author Read (1963) evaluates a dictionary on the following criteria:

1) Recentness.
2) Number of outstanding scholars.
3) Number of pages.
4) Technical and scientific vocabularies.
5) Weight.
6) Overall usefulness.

John Edward Gates (1972) also puts forth a set of tests under three main heads for evaluating dictionaries. They are:

1) Coverage of field.
2) Usefulness of information
3) Facility of use

These heads include –

1) Inclusion of all needed types, texts, providing appropriate and availability types of information.
2) Quantity of information requires.
3) Accuracy of language data.
4) Adequacy of linguistic description.
5) Documentation of information.
6) Up-to-datedness of information.
7) Adequacy of front matter.
8) Arrangement of information.
9) Convenience of typography.
10) Format.
Yakov Alkiet (1967) as cited by Bharati (1991) gives a set of broad classificatory criteria that by range, perspective and presentation could also be used as a basis to determine different evaluating criteria. Prominent among these are:

1) Density of entries.
2) Extent of concentration on purely lexical data (range).
3) Basis of arrangement of entries (i.e. the contrasting patterns of arrangement).
4) The three contrasting levels of tone (perspective).
5) Definition.
6) Verbal documentation.
7) Graphic illustration.
8) Presence of special features (presentation).

The above features could be well reckoned as significant criteria for evaluation of dictionaries. They may be broadly classified as internal and external of a dictionary.

The internals constitute:

1) Dictionary proper (actual of the dictionary)
   (a) Entry proper (components of the entry)
   (b) Presentation and,
   (c) Extra entry (matter relating to vocabulary, Arrangement of entries, arrangement of meanings of polysemous words).

The components of a dictionary entry may be according to the purpose, scope and intended audience.

The external constitute:

1) Front matter (adequacy of front matter).
2) Appendices.
3) Number of outstanding scholars.
4) Weight.
5) Overall usefulness.
6) Facility of use,
7) Typography.
8) Abbreviation, signs and symbols.
9) Format.

The front matter could be used from the point of view of including adequate information in its quantum and presentation process outlining the general characteristics of the dictionary, as regards its-

A)  
1) Purpose.
2) Audience.
3) Coverage
4) Language profile
5) History of lexicographical works, if any.
6) Notes (with charts, etc.) on pronunciation.
7) Etymology.
8) Criteria for fixing head-word.
9) Number of order of meanings.
10) Labels.
11) Cross references.
12) Nesting process (arrangement of entries).
13) Alphabetical order of arrangement of entries etc.

B) Whether the front matter describes the different stages of the compilation of the dictionary.

C) Criteria for inclusion or non-inclusion of variations of lexical items etc.

D) The number and nature of appendices as one more criterion for evaluation.

However, the grouping of evaluation criteria as internals and externals should not be treated as strict compartmentalization or independent of each others. There may be overlapping features also.

Kelkar (1980) provided a list of components in the structure of an entry in a traditional dictionary of an Indian language:

1) Entry word in the respective script.
2) Transliteration in Roman or Devnagari,
3) Origin tag such as Sanskrit, Persian, and English etc.
4) Part of speech tag.
5) Sub-class tag – gender of a noun, transitivity of a verb etc.
6) String of gloss in the same language in a monolingual dictionary or in the target language in a bilingual dictionary, with rudimentary punctuation structuring like comma, semi colon or, number such as (1), (2), (3), etc.
7) Idioms and glosses of the idioms.
8) Criterion from literary texts – chosen without any visible plan, such as covering all the entries or all the meanings.
9) Etymology.
10) Derivative. Etc (The list excludes illustrative pictures).

It is observed that the criteria mentioned by the reviewers / evaluators as presented above have several features in common. Although these criteria are ideal for evaluation of dictionaries, it would perhaps be expecting too much to apply them to dictionaries of Indian language, particularly Sanskrit. Singh (1987) observes that the reviews of dictionaries from time to time try to preset those ‘yard stocks’ in the words of Barnhart, but generally some of them highlight feature like definition, others like word list or pronunciation or synonyms or usage, rather than covering the entire content of the dictionary.

The criteria enumerated above are based on the review or survey on evaluation of a large number of dictionaries in the English language. The lexicographic tradition in English is at least 300 years old, if not more, with much larger area and speakers, spread all over the world. There have been researches and a constant improvement in each subsequent dictionary. Moreover, the dictionaries which have been made the object of study are of different types - most of them are collegiate or general readers’ dictionaries. We may not be able to apply all those criteria to Sanskrit dictionaries.

From the overall discussions of experts in the context of evaluation criteria following prominent criteria are selected by the researcher for the evaluating dictionaries and grouped them in to four facets.
4.6 Criteria Fixed by the Researcher for Evaluation:

From the different general criteria discussed above the researcher has analysed and isolated following evaluation criteria for evaluating Sanskrit dictionaries and to prepare annotated bibliography.

a) Coverage: Source, type, exhaustiveness, value, size, age (period), arrangement, format and subject/topic

b) Content: Explanations, meaning, product like vocabulary, word formation, synonym, homonym, acronym, grammar, criticism, illustrations, word treatment

c) Validation: Foundation, Novelty, Authority, reliability

d) Application: Level (Usage) Easy access, scope

4.7 Evaluation of Sanskrit Dictionaries:

Based on the criteria’s selected in section 4.7 i.e. coverage, content, validation and applications the available Sanskrit dictionaries are evaluated and presented in the following chapter 7. However few entries are sampled below.

a) Coverage:

1. **Amarkośa** by Amarsimha, is a work of paramount authority. Numerous commentators on various different works have frequently quoted Amarsimha’s lexicon in support of the explanation of a particular word of any Sanskrit text. Amarkośa is regarded as a work of standard authority in Sanskrit lexicons. The authoritative words covered in this source are still prominently used by the scholars and also used in spite of oriental source. This is combination of homonyms and synonyms and standard reference tool for writers, poets, researchers.

2. **Subject Sankrit dictionaries**: *Paryāyaratnamālā* by Mādhavakra is a synonymous medical dictionary covering meanings of medical terms and also
cover botanical terms, contains the names of plants and herbs generally used by physicians for medical purposes. It is not purely medical dictionary like Rājanighaṭu. The dictionary contains names of a large number of drugs and plants and many of them are not found in other glossaries. This is used by the specialist in the field of Medicine.

Conclusion:

Evaluation of dictionaries is essential to get the proper utility of dictionaries. Every dictionary has a speciality and structure. This chapter elaborated the criteria set by eminent personalities and based on these criterion researcher selected prominent criteria for the preparation of annotated bibliography. The following chapter has discussed the typology used for preparing dictionaries and cited the efforts of Deccan College in developing encyclopedic dictionary. The criteria suggested by the reviewers and evaluators of dictionaries have several features in common but they are suitable for evaluating a dictionaries in Indian languages including Sanskrit. An attempt is made by the researcher to isolate the prominent criteria’s and evaluate the Sanskrit dictionaries critically to prepare annotated bibliography of Sanskrit literature. This chapter fulfills the objective set at five.

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