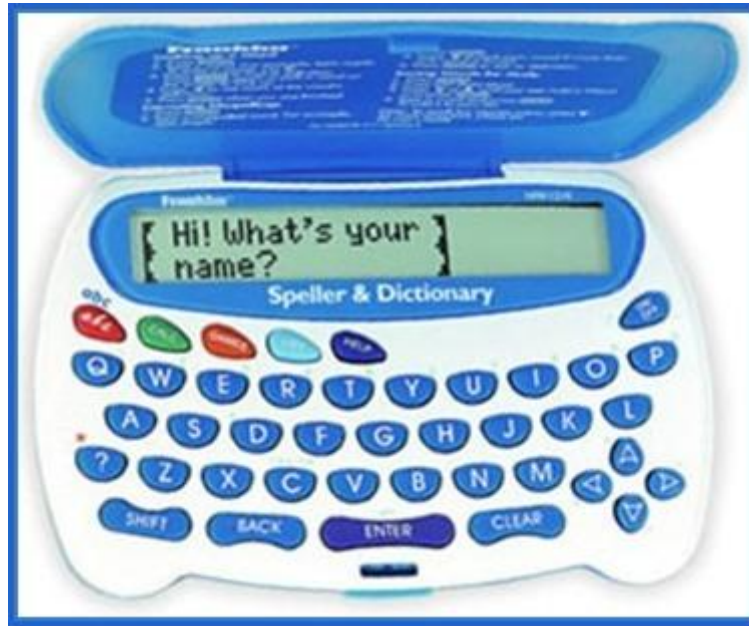


# GOLDEN RESEARCH THOUGHTS

## DEVELOPING A BIDIRECTIONAL AND BILINGUAL ELECTRONIC DICTIONARY FOR SCHOOL CHILDREN WITH SPECIAL REFERENCE TO TAMIL AND ENGLISH



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for School Children (Tamil – English & English – Tamil) CAS in Linguistics  
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### Abstract

Many interdisciplinary works have underlined the importance of lexical knowledge in terms of vocabulary knowledge. Lexical knowledge is an inseparable part in the knowledge of language. However, in the compilation of electronic dictionary, the technology can be involved in all the stages, because it is maximum utilized in both mental and mechanical works almost equally. The entire mechanical works can be easily carried out by computers using suitable programmes. The machine can also provide various processed information which actually helps the lexicographers to accomplish the most of the mental tasks with ease. Thus, this attempt is made to develop an e-dictionary for school children to enrich their vocabulary power through a technology-incorporated dictionary i.e. a virtual software (programme) written in a programming language (i.e. vb.net) as an asset to Tamil language and also its community.

**Key words:** Interdisciplinary, lexical knowledge, lexicographer, technology-incorporated dictionary, programming language

# GOLDEN RESEARCH THOUGHTS

## Introduction:

We familiarize that usage of multilingual and multidirectional electronic dictionaries necessitates the individuals to be having sound knowledge so as to pursue a successful career in their respective disciplines. Hence, application of computers is pervasive in all disciplines including natural language processing and machine translation. The availability of hardware and software alone will not be enough. The success of the program will hinge upon not only well illustrative computerized tools for learning -teaching materials but also compiling various electronic dictionaries by competent teachers and lexicographers respectively. Thus, as being language teachers, lexicographers, programmers and linguists, we may play an active role in developing well illustrative computerized dictionaries to expose our students to the concepts of information technology in a systematic way and make them to reap the maximum benefit out of the computerized tools and draft their own success in the arena of information technology. The developed tools and compiled dictionaries cover the basics of language components in particular lexical knowledge and language skills for strengthening learning –teaching process. They facilitate the visualizations in learning of each topic. Having considered this in mind, the attempt is made to compile a simple but elaborative bilingual and bidirectional electronic dictionary for school children with reference to Tamil and English. Such a dictionary is meant to help higher secondary and linguistic students familiarize themselves with the basics of the lexical knowledge and to make their language skills.

## The Aim:

The aim of this paper is to develop a bilingual and bidirectional electronic dictionary for school children with reference to Tamil - English; and vice versa.

## Objectives:

- To make the learners to reap the maximum amount of benefits oriented with lexical knowledge out of the electronic dictionary.
- To make the school students to draft their own success in the arena of information technology.
- To make the children to enrich their vocabularies through a technology- incorporated dictionary i.e. a virtual software (programme) written in a programming language (ie. vb.net).
- To expose the students to the concepts of information technology in a systematic way.
- To provide an asset to Tamil language and also its community like students, researchers, teachers, and so on.

## Methodology:

The following phases were attempted for having accomplished the proposed dictionary.

# GOLDEN RESEARCH THOUGHTS

## Data Collection:

For the proposed compilation of electronic dictionary work, about 3,000 nouns in Tamil and English have randomly been collected from school text books. They are also classified into different domains like general, academic, and technical. The general words are the most frequent and commonly used words that people use in their daily life. There are also other words, which are not so much frequent like the general words but are used in academia.

## Data Analysis:

It is concerned with analyzing the collected data in process of compiling electronic dictionary. It is defined in terms of due consideration and organization of the obtained data drawn from the various sources. Data analysis is virtually a dependent procedure, which can be duly determined according to researcher's typical decision.

Computational linguistic analysis that made reveals universals or commonalities between different learners in understanding the lexical knowledge indicating the most accessible knowledge as core to less accessible one. It also indicates a degree of variation in lexical knowledge in terms of various categories. In other words, it indicates principle and parameter in terms of lexical categories since the common lexical knowledge implies language principles, which was ignored in lexical knowledge due to more attention that was paid to syntactic features. Recognizing the strong points and shortcomings of the different learners' lexical knowledge work as a trouble shooter in designing the computer programs to enhance language ski in terms of different learners' knowledge variation. In other words, computer is utilized the diction, which is more comprehensible and varies learners from one another.

## Data Entry:

After analyzing the collected data manually, they have been alphabetized and digitalized them as input data entry with voice and picture in both Tamil and English for transferring them as electronic typesetting as well as storing them as electronic data bank. It is purely referred to developing digitalized database.

## Verification:

Tamil and English nouns taken from different domains (ie domain of flowers, fruits, vegetables, animals, kinship terms, human body parts and so on) and their equivalents in English and Tamil have been verified for avoiding problems at lexical devices found in digitalized database that developed for accomplishing the proposed task.

## Evaluation:

The data base consists of more than 3,000 nouns in Tamil and English with their respective equivalents have been evaluated to avoid the spelling mistakes both in Tamil and English entries and their respective as well as corresponding phonemic transcription, pronunciation, visual picture except abstract nouns.

# GOLDEN RESEARCH THOUGHTS

## Computing Instructions for Compilation of the proposed Dictionary:

Finally, all the information has been instructed to the computer through the programming language vb.net for compilation of the proposed electronic dictionary for school children who learn Tamil or English as a second language for honing their language skills in understanding the concept of lexical devices such as synonyms, antonyms, idiomaticity, collocation, concrete and abstract words to define a word in a comprehensible manner.

## Hypothesis:

Whether the bilingual and bidirectional electronic dictionary for school children with reference to Tamil and English; vice versa will be effective for developing the learners' lexical knowledge and linguistic intelligence regarding language learning process or not.

## Illustration of the Developed Dictionary:

The proposed dictionary is a tool mainly to acquire lexical knowledge of a language and to some extent, grammatical information. It highlights how far and how best the vocabulary or lexicon can be manifested as the coded (focal) and peripheral. Coded words are more specific, which are used in a language, but it may not be so specific in another language. Moreover, The dictionary emphasizes the lexical knowledge that implies language has a mechanism in which the words can combine with each other and make new concepts. The dictionary pinpoints the process of learning the word which can also be in the form of explicit and implicit (incidental).The former is defined in terms of consciousness, attention and awareness, whereas the latter is defined in terms of unconsciousness. It is worth noting that learning is different from acquisition since learning is consciousness knowledge and acquisition is unconscious. It emphasizes that learning a word can be either deductive or inductive (and even combination of them). Deductive way of learning is based on the instruction in which learning takes place from narrowing down the rules to the particulars. The former heavily depends on pedagogical practices and foci, and the latter relies on congenial surroundings. Despite the fact that native speakers take enormously benefit from both of them in language phenomenon by combining the words and reaching the correct sentences, the non native speakers cannot use them appropriately. In an integrative way of learning vocabulary, a native speaker uses the appropriate word automatically without having appropriate knowledge of word arrangement in a context.

Further, it paves a way to concentrate and understand the concept on vocabulary knowledge, despite being as a sub-skill compared to four main skills as listening and reading (receptive skills) as well as speaking and writing (productive skills).It plays very crucial role in communication, which can be assumed in both active and passive forms. The former refers to the total words that a person uses in a communication in a spoken and written mode, whereas the latter refers to the total words a person has heard or read. However, the importance of each skill or sub skill should not be underestimated. Thus, vocabulary knowledge is also a decisive factor in understanding reading comprehension texts. The type of vocabulary that a person uses as diction or idiosyncratic words show his / her characteristics, personality and attitude as well as family back ground or so called affective, social and cognitive variables.



# GOLDEN RESEARCH THOUGHTS

## Advantages of the Dictionary:

The major advantages of the electronic dictionary as mentioned above are:

- It is available in machine readable form.
- It processes the information stored using instructions and allows the users to retrieve dictionary information selectively.
- It consists of pronunciation and phonemic transcription.
- It displays animated pictures from various domains.
- It is computer-technology incorporated.
- It is user-friendly.
- It is attractive.
- The database connected to the tool is familiar to the students.
- The vocabularies have been recorded in clear voice as very similar to RP.
- The availability of tension- free environment.
- Probably, it is a boon for students or users to get rid of the fear of listening activity, etc.

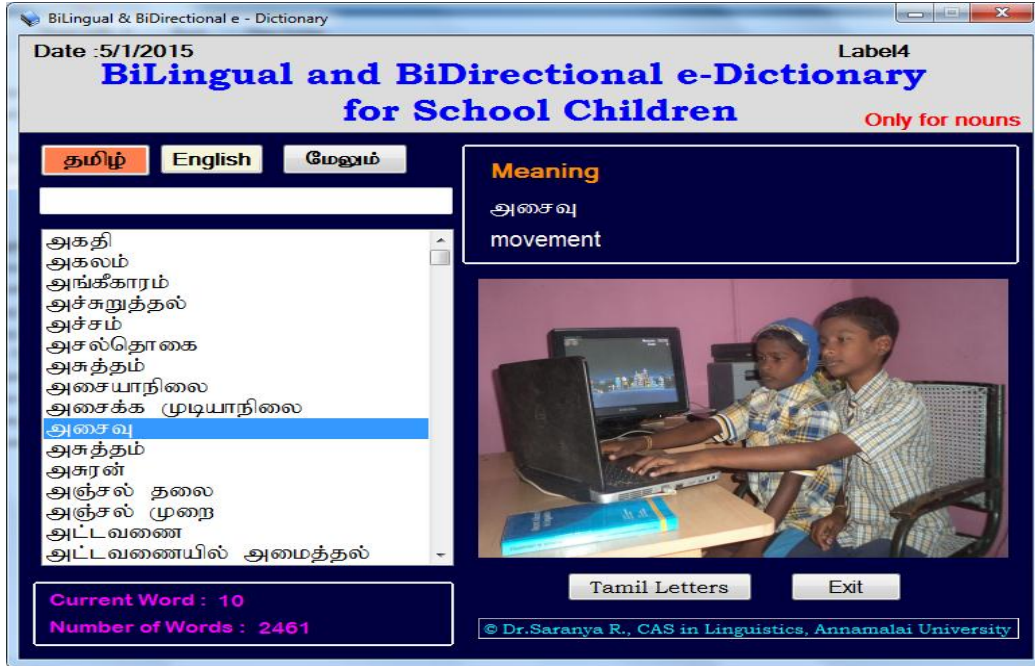
## Findings:

Compiling an unabridged or even an abridged electronic dictionary is not an easy task. It needs mutual contemplation and cooperation as well as spending time, energy and money. Undoubtedly, nothing be intervening variables are effective in compiling an electronic dictionary. Various dictionaries at different levels like Monolingual, Bilingual, Multilingual, Elementary, Intermediate, Advanced, Slang dictionaries are available, whereas Bilingual and Bidirectional Electronic Dictionary, with phonemic transcription, voice and picture for school children, with reference to Tamil and English; vice versa is not found in market. Thus this attempt is made to develop the bilingual and bidirectional electronic dictionary for school children to hone their lexical knowledge and enhance their vocabulary enrichment.

Becoming proficient in a new field of technology incorporated dictionary making in this large population and competitive world is a very difficult transition. Students need technology support as much as possible for learning vocabularies as well as having lexical knowledge. Lexicographers, who compile electronic dictionaries, have sound knowledge to utilize computer for accomplishing their tasks that help the students grasp or acquire the lexical knowledge easily as well as utilization of computer in their day to day life. In this respect, students need a variety of electronic lexical resources to develop their learning capacity and stability. Therefore, they need to hear, write, speak, and read language to compete with others in the globe. At this connection, it is obvious that computers can play an integral part in providing students with valuable language experiences in particular lexical knowledge as they learn a new language like English / Tamil as a second language. Thus, this article focuses on how a computer program can be a supplemental tool to develop bilingual and bidirectional electronic dictionary for school children with reference to Tamil and English.

# GOLDEN RESEARCH THOUGHTS

The sample visuals of the proposed dictionary are given below as screen shots:



## Conclusion:

After testing and proving the hypothesis, it is quite obvious that the technology based dictionary can magnet the learners who learn English or Tamil as a second language, towards the learning process effectively. It is concluded that the current technology is inevitable in developing not only the language teaching and learning tools, but also in compiling various kinds of dictionaries in natural language learning process. Thus, language development is enriched by the technology-incorporated study materials, and different kinds of dictionaries.

# GOLDEN RESEARCH THOUGHTS

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