Possibilities of Information and Communication Technology in the Field of Sanskrit Studies

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Abstract

The spread of ICT has affected all sectors and has been well-received in the teaching profession. The dominance of ICT in Sanskrit has led to great changes, as have changes in other subjects. Especially in the fields of Sanskrit teaching and research. The changes brought about by the expansion of ICT led to new ideas in Sanskrit research, and the field of research became more active. Many scholars today use computer-assisted new methods to preserve our endangered heritage, streams of knowledge, and their sources. Understand that it is coming at a very high price. This paper is a brief exploration of the possibilities of ICT in the field of Sanskrit studies.

Introduction:

Today, telecommunication technology and computer technology are widely developed in all corners of the world. Every subject in the world has uses of technology. There is so much great information in Sanskrit that has not yet been revealed to the world. In short, we can see that a great change has occurred in society. There is nothing wrong with describing it as a revolutionary change. Today, human life is like being trapped in a web. we cannot exist today without water, air, and light, so can technology. We often see even uneducated people discussing their thoughts and posting their own opinions on social media. ICT has become one of the infinite possibilities to expand as a network. No institution or office can be found anywhere in the world today without the use of different levels of technology. Discoveries and experiments are made every day in different parts of the world. Based on such an experiment, in 1984, a study was conducted by German and US scientists. That great experiment was the use of machine translation in Sanskrit.

Their main theory in that research was an attempt to turn Sanskrit into a machine language. Beyond their thoughts, they found that Sanskrit was the most computer-friendly language in the world. Sanskrit is not a spoken language. But it is true to say that Sanskrit today is a repository of knowledge that needs to be preserved. There were various methods available to keep the lessons of the palm tree intact. But today, technology is mainly used. In a sense, the only advantage of technology is the protection of such precious treasures. But there are some limitations and shortcomings associated with Sanskrit. But every citizen must recognize the potential of ICT in a subject like Sanskrit and promote it.

The Rigveda is believed to be the first work in Sanskrit literature. The branches of knowledge were also propagated and developed in ancient India through the medium of Sanskrit. Sanskrit is one of the 22 official languages of India and is widely used in the original texts of Hindu, Buddhist, and Jain scriptures. The original form of Sanskrit can be found in Vedic Sanskrit (the Vedas are written in Sanskrit). The oldest of these is the Sanskrit used in the Rigveda. This fact and scientific studies in linguistics indicate that Sanskrit is one of the oldest languages in the Indo-European linguistic branch. Many languages of modern Asian countries are derived from Sanskrit.

At present, Sanskrit is spoken only by a very small section of the population. But the language is used in the form of hymns and mantras in many Hindu rituals and ceremonies. Literary resources inherited in the form of Hindu and philosophical texts are also widely studied. Many scholarly controversies based on Indian philosophy still take place in some ancient traditional educational institutions. Much of the Sanskrit stream of knowledge encompasses an extensive tradition of poetry and literature. At the same time, science, technology, philosophy, and religious texts are part of Sanskrit literature.

Information Technology and Communication:

Today, the term ICT is used in a broad sense. It covers all types of technologies used to create, acquire, process, store, and disseminate vocal, pictorial, text, and numeric information. ICT consists of all technical means used to handle information and aid communication, including computer and network hardware, communication middleware, as well as necessary software.[i] The need for Sanskrit informatics merely not only to teach students, but it also helps to preserve the various knowledge of Sanskrit and protect the Sanskrit Language. Sir Monier-Williams said(1819-1899) that India though it has more than five hundred spoken dialects, has only none sacred language and only one sacred literature, accepted and revered by all adherents of Hinduism alike, however diverse in race, dialect, rank and creed that language is Sanskrit and Sanskrit literature, the only repository of the Veda or Indian knowledge in its widest sense, the only vehicle of Indian mythology, philosophy, law, the mirror in which all the creeds, opinions, and customs and usages of the Indians are faithfully reflected and the only quarry whence the requisite materials may be obtained for improving the vernaculars or for expressing important religious and scientific ideas.[ii]

Briefly, any knowledge of the world dependent on ICT, such as Sanskrit and its subdivisions. Based on informatics it can be defined as science of managing knowledge like collection organization, management, processing, retrieval and dissemination of Sanskrit related information, and consists of a broad area of knowledge encompassing computational linguistics, natural language processing, language analysing and language generating cognitive science, human machine interaction, artificial intelligence, automatic speech synthesis, speech recognition, automatic image recognition, optical character recognition, character coding systems, scripts used by the Sanskrit language, multimedia, machine-assisted translation and transliteration, building lexical resource, ICT based teaching and learning of Sanskrit, development of corpora of Sanskrit texts, Paniniyan[iii] grammar formalism, knowledge representation, image comprehension and inferential mechanisms, etc.

Sanskrit Interface Computer

Panini's studies of linguistics were complex and technically advanced. Panini has been conducting scientific studies of morpheme, phoneme, and root for millennia for Western linguists for thousands of years. His grammar was full of Sanskrit vocabulary. Panini's zeal to perfect the rules of grammar makes his grammar rules comparable to the machine language of computers in the modern scientific world. The intricate applications of modern mathematical theories, such as transformation and recursion, give Panini's grammar a thought similar to that of Turing machines. Considering these factors, Panini can be considered the originator of computer science. In other languages, Panini words are used in grammar. The similarities with the Paninis are clear to the BACS-Normal form or BNF code, which theorizes the grammar of programming languages in modern computer science. The back-normal form is often referred to as the panini-backs form. Moreover, the National Aeronautics and Space Administration of the USA, where interdisciplinary studies on machine language and natural languages are conducted, has acknowledged the scientific importance of Sanskrit.[iv]

Sanskrit Software

There are so many Sanskrit software programs available nowadays. All processes of informatics are provided through this software, especially the valuable knowledge in Sanskrit, like management, processing, and utilization etc. Various government organizations are also supported in developing programmes to process Sanskrit on Computers. Centre for the development of advanced Computing (CDAC) at Poona, TDIL under the Dept. of IT, Govt. of India, ILDC, JNU, and other NGOs like CIRD, Academy of Sanskrit Research at Melkote, etc.,[v] are some major organizations of India. CDAC has developed various programmes regarding computer applications. Their major contribution is a desktop publishing package for the Devanagari script. Technology Development for Indian Language is a major project which has been initiated by the Department of Information Technology (DIT), Government. India. Their main aim or objectives are developing the information processing in connection with ICT and developing technologies to access knowledge resources remaining in various Indian languages, especially in the Sanskrit language. Some kinds of programmes are also developed by them, like software tools, fonts, and resources. It is very helpful for students and research scholars in the field of Sanskrit Studies. They to use ICT tools and information for their assignment and thesis writing, etc., here able to use these programmes for their work. The procedure of research work will be strictly followed as a methodological pattern that helps this programme. The main processes of the research work are word processing, presentations spread sheets preparation, webpage surfing and designing, messaging, etc., in Sanskrit itself. Moreover, Devanagari scripts in Unicode will enable using Sanskrit in numerous packages. Some of the Sanskrit Software tools and Fonts are given below-Sanskrit Language True Type Fonts with keyboard driver, Sanskrit language Unicode Compliant Open Type Fonts, Sanskrit Unicode Compliant Keyboard Driver, Sanskrit Language Version of Bharathiyaoo.0(open Source), Content Management System, Sanskrit Scribus Layout and Publishing software, Sanskrit Pradipika, Online Multilingual Amarakosha, Mahabharatha Indexer, Sanskrit Sandhi Generator, Sanskrit Language Subanta analyser, Sanskrit Language Subanta Generator, Sanskrit language Tinanta Analyzer, Sanskrit language Tinanta Generator, Sanskrit language karaka Analyser, Sanskrit language Parts of Speech(POS) tagger, Sanskrit

Language Letter pronunciation, Sanskrit Language Alphabet Writing, Nitya archive, ISM Publisher,I Leap.

Academic Websites on Sanskrit

Websites are available for all academic subjects in the world today. There is nothing on this earth today that is not available through the internet. There are thousands of websites available even for topics like Sanskrit. Today, the internet is a great medium for research and teaching. In short, the Internet operates as a major information provider in all areas. It also has its academic websites on literature, Nyaya, Vyakarana (grammar), Jyotisa (astrology), and Vedanta (theology), which are subdivisions of Sanskrit. These types of websites help to facilitate research. Many useful articles are available on the Internet for teachers, students, and researchers. Websites still work in a free mode. There is no need for any payment to search these websites. Below are some important webpages. -Evolution of the Sanskrit Language, History of Sanskrit Literature, Eminent Sanskrit Authors, Well-known works in Sanskrit, Sanskrit& Other Classical Languages, Sanskrit& Modern Indian Languages, Sanskrit & The Science, Sanskrit & Metaphysical Subjects, Sanskrit & Humanities, Sanskrit& Religion, Sanskrit and Arts, Sanskrit Hymns and Subhasitas.

Electronic Journal

Online journal articles are a special form of electronic documentation. They are intended to provide material for academic research and study and are formatted in the same way as journal articles in traditional printed journals. Often, a journal article is available for download in two formats - as a PDF, in HTML format, and other electronic file types are often supported for related materials. Articles are indexed in bibliographic databases and search engines. E-journals allow you to incorporate new types of content into journals, for example, video material or research-based data sets. With the growth and development of the Internet, there has been a growth in the number of new journals, especially those that exist only as digital publications. A subset of these journals exists as open-access titles, which means that they are free to access for everyone and have Creative Commons licenses that allow them to reproduce content in a variety of ways. High-quality open-access journals are listed in the Directory of Open Access Journals. However, most libraries, organizations, and individuals continue to have access to subscription journals. This kind of access can also be found in Sanskrit. A special page has been prepared for it. Given below are the names of the pages that are mainly used in the Sanskrit Scholars- http://sanskrit documents, org/sanskritfaq.html. and http://www.faqs.org/topRated.html. It is not only Sanskrit other selected subjects available from this webpage.

Sanskrit Voice Site

It's a list of resources that point to sites where you can browse catalogues or download programs. Students are the focal point in the Sanskrit voice. These are sites of special importance for Sanskrit students. Here you will find more useful information about style manuals and other tips for writing papers. There are many links available for this purpose. By accessing http://sanskritvoice.com, you can learn about the methods of writing a research report and the new fields of knowledge they contain. If the Internet uses information to write research reports, we need to be aware of the current standards for referring to electronic information. Many sites provide examples of a variety of web references in acceptable formats. We can access these examples from the sites of many universities and research institutes. Such as several Sanskrit blogs are also available now

from the concerned sites. Website names in the field of Sanskrit and Indology studies are given below:

http://www.Sanskritlinks.blogspot.com

http://www.Kalidasa.blogspot.com

http://www.Sanskritbhasha.blogspot.com

http://www.Samskritam.wordpress.com

http://www.Yaajushi.blogspot.com

http://www.Sanskrit- quote.blogspot.com

http://www.sanskrit.edu.tc.

Wikipedia In Sanskrit

Sanskrit Wikipedia is the Sanskrit version of Wikipedia, a free, web-based, collaborative, multilingual encyclopaedia project supported by the non-profit Wikimedia Foundation. Volunteers around the world have co-authored over 5,000 articles with major contributions from India and Nepal. It was established in December 2003.[vi] By August 2011, it was rich with more than 5,000 articles.[vii]

Preservation Of Sanskrit Manuscripts

Surveys conducted by SC Biswas and Shri MK Prajapati on behalf of INTACH during 1988-90 and on scrutiny found over 5,000,000 manuscripts in India and abroad.[viii] 67% of them are in Sanskrit, or 3,350,000 manuscripts are available in Sanskrit (Project Document, NMM, 2003).[ix] Numerous manuscripts related to Indian architecture, art, and culture are available. Kashyapa Silpasastra, Alankara sastra, Paka vinjana, and Vastu vidya are examples of India's best description of temple construction, house building, rock cutting, and cooking. Although the great scholar Jagadguru Swami Sri Bharathi Krishna Tirthaji Maharaj wrote sixteen books (1911-1918) on the sixteen sutras on Vedic mathematics, these books are now lost.[x] Therefore, in this age where computer technology helps to preserve our ancient knowledge, the big question remains as to why we do not take advantage of the potential of computer technology to help modernize culture. In the age of globalization, the knowledge of Sanskrit can be explored by the global population with the help of information and communication technology. India has the oldest and largest collection of manuscripts. Various scholars have documented the preservation of these ancient manuscript collections, including indigenous methods of wrapping palm leaf manuscripts, applying extracts of natural products, and other chemical treatments. Studies have been conducted on the digitization of these manuscripts and the transfer of their knowledge to future generations. Efforts have been made to digitize these endangered documents and prevent them from being destroyed by biological, chemical, and climatic conditions, and digital archiving has been the focus. In Kerala, the University of Calicut and the University of Kerala have been successful in such endeavours. A modern device like a CD or microfilm helps today's digital citizens to take advantage of this. The growing popularity of printed books has increased the interest in collecting and preserving manuscripts in India. It is a great relief that the Central Government has made concerted efforts to preserve and give access to manuscripts through various research institutes across India.

Conclusion:

Unicode, Keyboards, Websites, Software, Wikipedia, Blogs, etc., are discoveries of ICT and are very useful in Sanskrit study. It is through this kind of technology that some of the problems faced by subjects like Sanskrit have to be dealt with. Through ICT, it is possible to

make further changes in the areas of teaching and research, especially in areas such as Sanskrit. Moreover, Information and Communication Technology (ICT) has emerged as a new science and technology to preserve our ancient knowledge. Our traditional knowledge is spread like an ocean in the Sanskrit literature. It is today's researchers who have to preserve them with the help of technology and pass them on to new generations. In short, the bright future of tomorrow is in the hands of today. If the culture is well preserved, it will be more effective for the new generations, and they will be able to enjoy the delicious taste of happiness.

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[i] Sanskrit Informatics, P.5

[ii] Ibid,p. 3

[iii] Panini was a great scholar in the Sanskrit Grammar of India. His theory was also known as Paniniyan

[iv] Ibid. p 17

[v] Ibid.p.46

[vi] Wikipedia

[vii] Wikipedia

[viii] Pratidhwani the Echo-A Peer-Reviewed International Journal of Humanities & Social Science, P.300

[ix] Ibid.p.300

[x] Ibid.p.300