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CONTENT

Title	Author (s)	Page
1. Economic Policies and the Role of Information	Saibal Kar	1-1
2. Tacit and codified knowledge in the time of rapid technological development	Achin Chakraborty	2-2
3. Smart Cities, Big Data and Public Libraries	ARD Prasad	3-3
4. Next Generation Library Applications: From Data Carpentry to Machine Learning	Parthasarathi Mukhopadhyay	4-4
5. Impact of Large Language Models on Information Ecosystem: a transdisciplinary inquiry	Sabuj Kumar Chaudhuri	5-5
6. Review of Social Science Research Infrastructure in India: Current Status and Future Prospects	Durga Sankar Rath and Sanjoy Kar	6-7
7. Qualitative Methods in Social Science Research and Management/Archiving of Qualitative Data	Mary K Shenk	7-7
8. Availability of Data Repositories in Social Science Research	Sanjoy Kar and Saswata Ghosh	8-11
9. Preservation of primary survey data generated by micro studies: The evolving role of libraries and data centres	Subrata Mukherjee and Monalisha Chakraborty	12-12
10. Research data repositories and data quality assurance in India	Dorothea Strecker and Jiban K. Pal	13-16
11. Democratization of Knowledge: Philosophical Possibilities and Reflections from the Lens of Habermas	Sreetama Misra	17-18
12. Democratization of Knowledge: Openings and Apprehensions on the Realm of Open Educational Resources of Higher Education Institutions in Kerala	Revathy B S, Jayapraveen J, and Durga Lekshmi G S	19-20
13. Decolonization of Knowledge and the Role of Public Archives in India	N.C. Ghosh, Sanjoy Kar, and Jiban K. Pal	21-22
14. Towards a dynamic social science information infrastructure: A recommendation for inclusion of political consequences as metadata element	Soumen Mallik	23-23
15. Water, Knowledge, and Princely State: The Role of Information in Water Contestations in Colonial India	Mahendranath S and John Bosco Lourdusamy	24-25
16. Knowing at the Margins: Modalities of Information and Representation in Late Nineteenth Century Colonial Chotanagpur and Santhal Parganas	Indranil Pramanik and John Bosco Lourdusamy	26-28
17. How effective is the OAI area of literature on Social Sciences in indigenous language?	Evana Mukherjee and Bapan Kumar Maity	29-30
18. Beyond The Homosaurus: Search for a multilingual, collaborative, SKOS compliant linked open vocabulary for LGBTQIA+ community as an attempt to digital inclusiveness	Roshni Mitra and Parthasarathi Mukhopadhyay	31-31
19. How FAIR are data-repositories in India	Jiban K. Pal, Dorothea Strecker and Sanjoy Kar	32-35
20. NASSDOC as a National Infrastructure for Social Science Research in India	Ramesh Yernagula	36-36
21. Scientific Social Responsibility (SSR) policy: a	Suchismita Dash	37-37

conceptual understanding from a stakeholder's perspectives		
22. The impact of Publishers' Open Access Policy for Scholarly Publication in Social Science	Souvik Koner	38-39
23. A Framework of Responsible Research Assessment for Ranking the Social Science Institutions in India	Sumita Ghose and Jiban K. Pal	40-43
24. A Study of Open Access Journals of India with special reference to Directory of Open Access Journal (DOAJ)	Abhijit Chatterjee and Anwesha Chatterjee	44-45
25. Honest intellectual property based on human values and ethics for new knowledge	Ana Liliana Espitia Falla	46-47
26. Impact of urbanization on society and environment: a content analysis of YouTube videos	Sourav Mazumder and Tapan Barui	48-49
27. Digital libraries as an open window for preserving and disseminating indigenous knowledge: a strategic approach	Rakhi A Rajendran and Neetha V T	50-51
28. Visualizing knowledge: a critical analysis on the impact of mind mapping techniques in English grammar classrooms	Neetha V T	52-54
29. A conceptual overview of UX design: sample study designs for single and multiple target groups	Greeshma Raveendran and Geetha Janet Vitus	55-57
30. Empowering Tribal Farmers through Information towards Poverty Alleviation: Evidence from Indian Sundarban	Ananya Sarkar	58-58
31. Introduction chapter in doctoral theses and IRM: An exploratory study	Shree Deepa and Sayantan Lahiri	59-60
32. Tantrayukti as a research method in scientific writing	JSR Prasad, Abirlal Gangopadhyay, KSR Chakravarthy & Girija Gole	61-63
33. Effectiveness of Social Inquiry Model In Promoting Global Citizenship Education With Science Teaching at Higher Secondary Level	Swati Harsh Sinha	64-64
34. Human Development, Knowledge Economy and Libraries	Kishor Chandra Satpathy and Manisha K. Rana	65-65
35. Libraries and the New Education policy 2020: A Step forward in the Indian Education system	Rosy Tintu M.P	66-67
36. The Challenging role of Public Libraries in the perspective of NEP 2020	Jincy Joseph and Archana Unnikrishnan	68-69
37. Impact of research publications on NIRF ranking of Universities: a study	Dipa Roy	70-71
38. Digital Library Initiatives in India: A survey	Sankhayan Mukherjee and Swapan K Patra	72-73
39. Web-Based Library and Information Services: A Content Analysis of NIRF Ranking top 20 University Libraries in India	Rumpa Saha	74-74
40. Impact of Electronic Resources on Library Services: A Review	Jyoti and Javed Khan	75-75
41. Assimilating research data management process and mapping to research data service in libraries	Alovi Zhimomi	76-77

Introduction chapter in doctoral theses and IRM: An exploratory study

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Introduction:

Thesis introduction plays an essential role as a roadmap for the rest of the thesis, providing crucial details to the reader to engage with the text. There are very few studies which look at this. While many studies (Goddard & Mellville, 2001; Kothari, 2004; Evans, 2014 & Dawson, 2019) in Western Research Methodology (WRM) addressed academic vis-a-vis research writing in general terms, a few (Faber, 2012; Sestak 2013; Armagan, 2014; Fried et. al. 2019 & Nundy et. al. 2022) gave a checklist to write an introduction.

Purpose:

This paper presents a qualitative exploratory study that investigates writing patterns in the Humanities (English literature, Comparative Literature, Philosophy) and Social Sciences (Sociology, History, Women's Studies) theses (written in English) by doctoral students of the University of Hyderabad using Indian Research Methodology (IRM) as an additional framework.

Design/methodology/approach

Only the theses' titles, opening lines, paragraph structuring and the first paragraph of the introduction chapter were considered in this study. This exploratory paper tries to examine any direct link between the title and the introduction chapters in Indian doctoral dissertations awarded after 2014 and looks at the possibilities of applying IRM as an additional framework onto the selected theses.

Findings

The findings of this paper revealed the deficiencies found in the introduction chapters of the selected theses and exposed the fairly inconsistent choices of the first sentence of the chapter, the structuring of the paragraphs and how these were linked to the words in the title of the theses.

Originality

IRM in general and Tantrayukti methods of Ayurveda in particular was applied to these selected theses as a homegrown unique, additional framework following Ancient Indian Knowledge Systems. Tantrayukti is a critical term in Ayurveda that is derived from two Sanskrit words: "Tantra" meaning shastra, that is the guiding principle; and "Yukti" which refers to a planning method, in which observations are related to understand the proper meaning. Thus, Tantrayukti can be translated as "the logical, systematic methodology or approach to study."

Tantrayukti involves the use of various tools like reasoning, logic and analysis to understand the concepts as well as applying them in organising a medical treatise. It covers a wide range of topics, and is multidisciplinary in nature. Therefore, the term has been used variedly in ancient Sanskrit texts, ranging from Kautilya's Arthashastra (15th adhikaraṇa, 108th prakaraṇa) to Ayurvedic treatises like Susrut Samhita (uttarasthānam, 65th adhyāya, 1-40) and Caraka Samhita (siddhisthānam, 12th adhyāya, 41-44). The assumption is that the Tantrayukti methods are more diverse and offer an elaborate yet intricate framework (some of them not having any equivalent in WRM).

Conclusion

Therefore, this paper advocates the application of the Tantrayukti methods (IRM) in doctoral thesis writing to enhance the connections between the title, first sentence and the structure of paragraphs in doctoral theses so as to enhance the academic quality of the chapter.

Keywords: Indian Research Methodology, Tantrayukti, Dissertation, Introduction chapter, Academic writing, Thesis

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Tantrayukti as a research method in scientific writing

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Introduction

Sanskrit literature is one of the most ancient literatures considered by the critics of all times. Vedic knowledge is the fountain head of sanātana dharma. Entire Vedic knowledge has been classified into fourteen knowledge bases. Out of the fourteen knowledge bases, *darśanas* such as, *Vyākaraṇa*, *Nyāya*, *Mīmāṃsā*, have elaborated the ancient Vedic thought. Apparently the first epic in classical Sanskrit, the *Rāmāyaṇa* drew the attention of the scholars from nook and corners of the world, due to its wonderful narration of cherished Indian values, culture and ethics. It is almost ¼ in size to the *Mahābhārata*, the only other celebrated epic in Indian context.

The *Mahābhārata* has been considered ten times bigger to the combined size of the famous Iliad and Odyssey of Greek literature. Sage Panini's *Aṣṭādhyāyī*, which is the base of Sanskrit grammar today, lists about 4000 aphorisms. He has encrypted the entire language into these many handful of aphorisms. Apart from published texts, still there are thousands of unpublished manuscripts available all over the world. That means, there is tons of Sanskrit literature that needs further scientific exploration.

Now that the point is, creation of such a vast literature would have been impossible had not the Sanskrit authors followed certain research methods and methodology while authoring respective texts.

Database of knowledge creation and its classification gives a definite structure to any universal literature provided, it follows a proper research methodology. Without this, the structure of any literature is incomplete. As stated before, the *śāstrakāras* have followed certain research methods and methodology that are conceptually same in the modern methodology. Once this argument is accepted then it is much easier for us to explain the underlying methodology that is implicitly or sometimes explicitly demonstrated by the Vedic seers.

Research methodology is a path to find a solution to a research problem or question. It involves several steps as defining the research problem, hypothesizing, testing, analysing and so on. Extensive research methods contributed to the scientific knowledge base of western countries. A hypothesis is an integral part of research methodology. It is a specific statement of prediction. But it is to be noted here that, all studies does not require a hypothesis in Indian context.

Investigating the real nature of the *padārthas* in shastras is called a '*siddhānta*'. It is a quest for knowledge in search of truth. *Pramāṇas* help us in investigating the real nature of the phenomenon. Some exclusive technical devises like '*Anubandha catuṣṭaya*' (fourfold connections), '*Saṅgatis*' (six types of content connectors) and research methods like '*Tantrayuktis*' etc., are mentioned in Sanskrit scriptures. Utilization of these technical devises and methods is quite evident in the textual commentary traditions of '*vārtika*', '*bhāṣya*', and '*vyākhyāna*'. So, Tantrayuktis (henceforth TY) are one amongst the most useful ancient Indian research methods.

TYs as a research method, described first in *Caraka Saṃhitā*, to organize *śāstras* or scientific treatises logically. The compound word Tantrayukti is made up of two words. Tantra is a method or technique or systematic approach to study. Yukti is planning in regard to arrangement

of the content.

Purpose

- To develop unified definitions for each and every TYs
- To apply the unified definitions in the research methodology and scientific writing

Methodology

We collected all available definitions of TYs from several Sanskrit treatises. We critically studied every TY description and identified the author's special remarks. By identifying the unique insights in meanings of each TYs, we rewrote a new sentence that would contain the purport of their unified usage. Such derived definition, from complex sentences to one simple sentence is called *ekavākyatā* or syntactical unity in the Indian traditional system of knowledge.

Findings

There are almost eight treatises where TYs are defined, viz., *Suśruta Saṃhitā* (SS), Dalhaṇa's commentary on *Suśruta Saṃhitā* (^{SSD}), Cakrapāṇidatta's commentary on *Caraka Saṃhitā* (^{CS}CPD), *Aṣṭāṅgasamgraha* (AS), Aruṇadatta's commentary on *Aṣṭāṅgahṛdaya* (^{AH}AD), Nīlamegha's *Tantrayuktivicāra* (NM), Kauṭīlīya's *Arthaśāstra* (KA), and Viṣṇudharmottarapurāṇa (VDP). Notably, the number of TYs differs from one treatise to another, and we found forty-three TYs from in total. We tried to understand the purport of all possible TYs for modern implications. In this paper, only fifteen TYs are planned to be presented due to the length of the paper.

Originality

Previously, some work has been done to explore and explain the nature TYs, but deriving unified meaning to form a single definition of each TYs was not attempted. As several authors demonstrated connotations of a single TY, one may be lost in them and would not find their exact purpose. This present work will help to understand the heart of every TYs as the current authors interpret them directly from the core Sanskrit texts. An illustration is given below.

Yoga is one of the TYs, and we came to the syntactical unity of that as follows:

Sanskrit definitions of Yoga TY:

- I. yena vākyam yujyate sa yogaḥ (SS, 6.65.9)
- II. yena vyatyāsoktānām sannikṣṭaviprakṣṭānām padānām ekīkaraṇam sa yogaḥ (^{SSD})
- III. yogo nāma yojanā vyastānām padānāmekīkaraṇam (^{CS}CPD)
- IV. yogo nāma yogaḥ sambandhaḥ (AS)
- V. yogo nāma yojanā, uddeśanirdeśayoḥ sūtrabhāṣyayorvā (^{AH}AD)
- VI. yena vākyam yujyate saḥ yogaḥ (NM)
- VII. vākyayojanā yogaḥ (KA)
- VIII. yena vākyārthaḥ yujyate sa yogaḥ (VDP)

Unique insight(s) in definitions

[1] *yena vākyam yujyate* (SS, NM)

[2] *yena vākyārthah yujyate* (VDP)

[3] *vākyayojanā* (KA)

a. Sense of [1] & [2] in compound

[4] *yojanā uddeśanirdeśayoh sūtrabhāṣyayoh vā* (^{AH}AD)

[5] *yojanā vyastānām padānām ekīkaranam* (^{CS}CPD)

[6] *yena vyatyāsoktānām sannikṛṣṭaviprakṛṣṭānām padānām ekīkaranam sah* (^{SS}D)

[7] *sambandhah* (AS)

Syntactic unity (*ekavākyatā*) of definitions:

(In Sanskrit by the present authors) *sannikṛṣṭaviprakṛṣṭānām padānām arthānugūṇam yojanam yogaḥ. sa ca uddeśanirdeśayoh sūtrabhāṣyayoh vā bhavati*

(Final unified definition or the translation of the above Sanskrit definition)

“Aligning of words/sentences as per sense (to arrive at a meaning) is called Yoga. This Yoga TY is implied in establishing a correlation between *Uddeśa* TY & *Nirdeśa* TY, or aphorism and commentary.”

Conclusion

Tantrayuktis are controlling guidelines for a treatise. They provide the system of frame work of theory and its practical application. The above discussion shows that in context of Sanskrit literature, there is a superior kind of research methodology followed in the ancient Indian textual tradition. It can be said that this TY research method can be extended and applied to any text belonging to any philosophical school. Further we aim to apply it to the context of scientific and academic writing.
