



## Writing the review of literature: rasgulla as metaphor

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### Abstract

The author uses the metaphor of the Indian sweet, rasgulla, to unravel the details of how to conduct a literature search, and demonstrates thereby, how to structure a review of literature. The process also illustrates that a scientific temperament can be beneficial in any walk of life.

**Keywords:** Review of literature; thesis-writing

Navratri had come to a victorious end with Dassera – a festival of joy for all. Bengalees call it ‘Bijaya Dasami’ – the celebration of victory of good and truth over evil; the best way to celebrate it is with sweets. On the eve of Bijaya Dasami I met my old friend from Orissa, Dr Patra, in the hospital corridor.

“Let’s celebrate,” he said, so we went to the cafeteria to treat each other to the king of sweets – rasgullas. Both of us are very fond of rasgullas and very possessive about this delicacy too, as we both consider this majestic sweet our own. Rasgullas always lead us to a Bengali – Oriya debate.

I started the debate that day by mentioning that the world considered rasgulla to be a Bengalee sweet. Dr Patra retorted that this novel sweetmeat originated in Orissa and the Bengalees had stolen the recipe. We decided to avoid bitterness on this, a day of universal

friendship; we proposed to use scientific methods to resolve the issue. Our knowledge of rasgullas, apart from the enchanting taste, was very limited, and we had many unanswered questions in our minds. Dr Patra suggested that we temporarily divert our minds from medicine to rasgulla and try to find an answer to my question: Where did rasgullas originate from and do they have global acceptance? We would consider this our research question and would review the literature accordingly.

What exactly is literature review? I had some doubts. Is it just a detailed account of the research topic? Dr Patra had a clear answer for me. “No. It is defined as the process of reading, analyzing, evaluating, and summarizing scholarly materials about a specific topic.[1] It is an account of published material relevant to a particular issue, theory or area of research which is guided by the research question. The review should provide

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a description, summary, and critical evaluation of each relevant published article.”[1,2]

Why was it necessary to review the literature? Before we proceeded, we had to be sure that the question was pertinent and that it has not been answered by someone else already. For a clear concept about the research to be performed, it was essential to know how much was already known, what the gaps in knowledge and controversial issues were, and what was unknown.[1-3] Dr Patra had something more to add. “When planning a research project, we are looking for an answer to a research question. The purpose of writing the literature review is to convey to the reader what knowledge and ideas are already established, and what their strengths and weaknesses are.”[1] Dr Patra quoted Caulley (1992) of La Trobe University,[4] who has aptly summarized that the literature review should “compare and contrast different authors’ views on an issue; group authors who draw similar conclusions; criticize aspects of methodology; note areas in which authors are in disagreement; highlight exemplary studies and gaps in research; show how your study relates to previous studies – and to the literature in general; and conclude by summarizing what the literature says.”

We met again the next morning, but this time in the library. Hours went by as we sat there, eyes glued to the computer and books strewn all over. Peeping over his laptop, Dr Patra warned me, “Review of literature starts with extensive reading. This is where we often tend to get carried away. We need to remember to focus our reading on the theory involved, the methodology and the quantitative research already done, always keeping in mind the research question. Our sources can be books, journals, or online searches.[3] The texts must be wide enough to provide adequate relevant material but

narrow enough to exclude the irrelevant. It is of paramount importance to focus on current and updated resources.”[5] This meant I should beware an irrelevant literature hunt.

He further reminded me that our literature search should provide us with the background information for the present study, and knowledge of current status of research in the field. It should help establish the present study as a link in a chain of research.

After three days of constant labor we found 26 relevant articles, ranging from food connoisseurs’ blogs to scientific research papers. As we read through them it became evident that most of the articles dealt with a few common sub-topics, many of which we wanted to focus on, like the history of rasgulla, its composition, characteristics of the Bengalee and Oriya variants, variants available today, present status of the sweet with respect to global acceptance, and the methodology adopted to judge taste. There were many other issues discussed which were of no relevance to our study.

With this load of new information scattered before us, we were at a loss. How could we bring out something comprehensive and meaningful out of these heaps? “What do we do now? Copy-paste? Summarize the articles and post them one by one?” I asked.

“That’s not the way,” Dr Patra remarked. “You have to segregate information theme-wise from all articles, and then analyze & synthesize them to form a statement. Remember literature review is not a summary of what others have said, rather, it is a critical discussion, a synthesis and analysis of the relevant publications.” So we racked our brains and devised a novel method. We began to assign color codes to each sub-topic and highlighted the portions in the texts accordingly. The figure shows a color coded page.

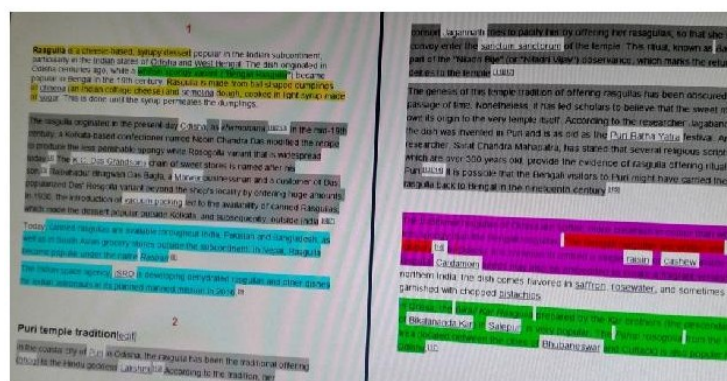


Figure: Color coding of an article to indicate different sub-topics of a literature review

Dr Patra, a meticulous researcher, guided me through the procedure. He suggested, “Now summarize the main points by para-phrasing, and note down the citations with each summary.[5] The summaries from different articles can then be categorized according to sub-topic or subject and a paragraph may be built up on each category. Remember, as we proceed, we must go by theme or sub-topic, not by author, and discuss what different authors state/ argue on that sub-topic, linking it to our aim.”[3]

I proceeded to para-phrase the highlighted portions in my own language, to summarize the main points & to highlight the quotes. Dr Patra noted down citations with each summary, emphasizing the fact that citing all references is an absolute necessity; otherwise it may amount to plagiarism.

Next we categorized the summaries according to sub-topic or theme and built paragraphs on each category, commenting on who said what. Want to see how it worked out? Let's take the example of paper A (Archives of RG 1998. Pp. 32-33). This paper dealt with four sub-topics of relevance to our research question, which we paraphrased as follows:

**Composition:** Rasgulla is a cheese based syrupy dessert. It is made by cooking balls of chhena and semolina dough in light syrup of sugar. **Bengalee vs Oriya rasgulla:** Bengalee rasgulla is white & spongy with a better shelf life. **History:** Originated in Orissa and was known as Khirmohana. Modified to a spongy variant by NC Das of Kolkata in mid 19th century and popularised by BD Bagla. Vacuum packing introduced in 1930, thus popularised outside Kolkata and later outside India. **Global acceptance:** Available throughout India, Pakistan, Bangladesh as well as South Asian countries. ISRO developing desiccated rasgulla for astronauts on space mission – to be ready by 2016.

After all the articles were summarized and para-phrased, all summaries on a particular sub-topic were amalgamated into one paragraph, citing the authors and highlighting concurrence and controversies. As an example, the paragraph on the composition of rasgulla was framed as follows:

According to A, B and C, rasgulla is made by boiling chhena balls, kneaded with semolina, in sugar syrup. B suggests that seasoning such as saffron or cardamom should be added; however, others do not recommend it, claiming that seasoning kills the original

flavor. While D has defined that each ball should ideally be of 6-7 gm wt and the cooking temp be 50-55 degrees Brix, there is wide variability in both the size and the temperature reported by others (A, B and C). Most sources agree that the best results are obtained by overnight soaking at 35-40 degrees. Sucrose & sorbitol may be used in place of sugar.

In this manner, when all the sub-topics were finally represented by a paragraph each, keeping the research question in mind, our review of literature took proper shape. This is a brief representation of how it turned out:

Rasgulla is an Indian sweetmeat, originating from Eastern India. In Odisha it was called khirmohana, and was reportedly prepared by the Kar brothers in the 13th century.[1] Another researcher, Sarat Chandra Mahapatra, has stated that several religious scriptures, which are over 300 years old, provide the evidence of a rasgulla offering ritual in Puri.[2] In the mid-19th century, a Kolkata-based confectioner, Nobin Chandra Das modified the recipe to produce the less perishable spongy white variant that is widespread today.[3] Raibahadur Bhagwan Das Bagla was instrumental in popularisation of Das' rasgulla.[4] Authors F & G still argue that Nobin Das was the inventor of Rasgulla.[5,6]

According to A, B and C, rasgulla is made by boiling chhena balls, kneaded with semolina, in sugar syrup.[1-3] B suggests that seasoning such as saffron or cardamom should be added;[2] however, others do not recommend it, claiming that seasoning kills the original flavor.[4,5] While D has defined that each ball should ideally be of 6-7 gm wt and the cooking temp be 50-55 Brix,[6] there is wide variability in both the size and the temperature reported by others.[1-3] Most agree that the best results are obtained by overnight soaking at 35-40.[1,5,6] Sucrose & sorbitol may be used in place of sugar.[4]

A simplified recipe and better shelf life helped in popularising the sweet in other parts of the country. In 1930, the introduction of vacuum packing led to the availability of canned rasgullas, which made the dessert popular outside Kolkata, and subsequently, outside India.[6,7] Canned rasgullas are available throughout India, Pakistan and Bangladesh, as well as in South Asia. In Nepal, rasgulla is popular under the name Rasbari.[8] The Indian space agency is developing dehydrated rasgullas and other

dishes for Indian astronauts.[9]

Hence, it appears that the modified Bengalee form of rasgulla made its way into the global market, though the ancestral origin was in Orissa; however, a few historians still argue that Bengal had nothing to do with the propagation of rasgulla to the western world.[10,11]

Dr Patra quoted his teacher who had mentioned that the literature review should comprise of a short introduction, followed by the main body of statements on each focus area, finally ending with a valid conclusion. Acknowledgment of all authors with proper citation must be ensured. Literature which disagrees with the research objective must not be left out. Disagreements and controversies often make the research worthwhile.

As Dr Patra went through the final version, he mentioned that in writing a review of literature, care must be taken to adhere to the following: a) objectivity b) respect of others' opinion, c) an academic and formal style, avoiding colloquial language, and d) crisp, clear and focused write-up, avoiding lengthy discourses.[3,5] The length of the literature review should be 15-30% of the whole thesis.[3]

In conclusion, scientific methods can be used to solve problems in everyday life, even those that are in non-scientific realms. This debate over a sweet demonstrates in a unique way just how postgraduate students should go about planning and writing the review of literature.

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