

## Chapter 3 Research Methodology

The research on the analysis of the body of knowledge and scientific and technological imagination in the verse tale “*Phra Abaimani*” was aimed at (1) analyzing the body of science and technology knowledge embedded in the verse tale *Phra Abaimani*, and (2) organizing the body of knowledge in science and technology embedded in the verse tale *Phra Abaimani* into categories to serve as the database for providing science learning for every grade level in accordance with the basic education curriculum 2001. This research has employed the documentary research conducted by the researcher along the research procedures as follows:

### 1. Information Sources

The sources of information for this research are:

1.1 The main documentary source was the verse tale *Phra Abaimani* composed by *Sunthorn-Phu* published by Silapabannakhan in 2001. There are 4 volumes. The researcher had used the criteria suggested by Luan Saiyos and Angkhana Saiyos (1995, page 242), Somchot Ongsakul (not dated, page 54), and Waro Pongsawat (2008, page 56 – 57) and came up with the guidelines for checking when, where, why and by whom the document was written and what the original manuscripts looked like. In using this guideline with the verse tale *Phra Abaimani* of *Sunthorn-Phu* which was the prime source of this research, the result was as follows:

1.1.1 Age of the document (When): This document was published in 2001 which was the 16<sup>th</sup> edition after the 1<sup>st</sup> edition was published in 1964. The version used for this research was then regarded a secondary source but was up to date and the latest edition than those published by other publishers.

1.1.2 The place of publication (Where): This document was published by Silapabannakhan, ranked as the 10<sup>th</sup> oldest publisher of the country, having been in service for more than 60 years, with a lot of many printed materials in various forms such as textbook, features, and many great literatures such as Inao, Ramakian, for examples (DBook Club, 2009, Website)

1.1.3 Author (By Whom): The document was published under the title of The verse tale *Phra Abaimani* created by *Sunthorn-Phu* the manuscripts were validated by H.R.H. Prince Damrong Rajanupab since serving as the President for the Board of Trustees of Phranakorn Library (Thai Literary and History Division, 2001, Preface). The publisher had been granted the permission by the Fine Arts Department, as shown in the preface written by the Director General of the Department. This edition published all the 132 episodes of the tale.

1.1.4 The motive for Creating the Tale: The verse tale *Phra Abaimani* was created by *Sunthorn-Phu* basing on his imagination for entertaining purpose and some instructions. The real motive, however, was not yet definite. Many academics had speculated in various ways. Thosaporn Wongrat (2007, Preface) viewed that *Phra Abaimani* was composed by *Sunthorn-Phu* through his imagination to reflect knowledge, events, and various objects of the dates. In regarding the creator’s situation at the time the work was being created, Prince Damrong Rajanupab speculated that *Sunthorn-Phu* might have composed it for sale during his being in the prison (Thai Literary and History Division, Fine Arts Department, 2001, Biography

of *Sunthorn-Phu*, Page 24). The publisher, Silapabannakhan, had published the verse tale *Phra Abaimani* to sell to the students, and the others who were interested in literature in general.

1.1.5 Original Form of the Document: The verse tale *Phra Abaimani* was originally composed in form of Klon Paed or octameter (verse whose phrases were composed of 8 syllables) into 132 episodes. The publisher had used the manuscripts which were checked for validation by Prince Damrong Rajanupab as mentioned above.

It could be concluded that the document the verse tale *Phra Abaimani* of *Sunthorn-Phu*, the complete edition which was published by Silapabannakhan was a secondary source of information which had been republished for 16 times. The 2001 publication was the latest edition composed of 132 episodes. It is the most up to date and complete than any other editions published by other publishers. The verses were checked for their validation by the experts who were well accepted in the fields. The publisher was granted the permission to republish by the Fine Arts Department to be distributed to the students of literatures and those who were interested in literature in general. The edition had maintained the originality of the work as created by the author *Sunthorn-Phu*. It was then appropriate to be used as the prime source for this research.

1.2 Other documents related to the verse tale *Phra Abaimani* and *Sunthorn-Phu* were in forms of textbooks, academic articles on analysis, and critique, or other information via internet which was related to the verse tale *Phra Abaimani* and *Sunthorn-Phu* in various aspects.

1.3 Documents related to the science strands prescribed by the basic education curriculum, 2001.

## 2. Information Collection

The collection of the information for this research was done through the following procedural steps:

1. Surveyed the substances on science and technology embedded in the verse tale *Phra Abaimani* before analyzed and interpreted their meaning employing the content analysis methodology who procedural steps are as follows:

1.1 Examined the verse tale *Phra Abaimani* with the aim to analyze the body of science and technology embedded in the story.

1.2 Generated the issues to be analyzed. In this research, the analyzing points included the verses containing body of knowledge and imagination in science and technology of *Sunthorn-Phu* embedded in the verse tale *Phra Abaimani* relevant to the 6 science fields – physics, chemistry, astronomy, geography, geology, and biology.

1.3 Carried out the analysis of the content reflecting the body of and imagination in science and technology embedded in the verse tale *Phra Abaimani*. The analysis had employed the theory of interpretivism which based on the analysis of the text to gain understanding on the act or the explanation of the things of the characters appeared in the literal work basing on the socio-cultural and historical contexts of the time when the literature was being created.

(<http://www.kroobannok.com/blog/3293/2009>); Pagorn Singsuriya, 2009,

(<http://www.philospedia.net/hermeneutics.html>) The interpretive analysis followed the following steps:

1.3.1 Examined the content represented in literal form in the verse tale *Phra Abaimani* reflecting the body of and imagination in science and technology of *Sunthorn-Phu*.

1.3.2 Interpret the messages in the literature work which *Sunthorn-Phu* wanted to communicate both directly and indirectly, and the logic of all the things appeared in the verse tale basing on the reader's comprehension.

1.3.3 Decoded the knowledge and imagination in science and technology of *Sunthorn-Phu* as embedded in the verse tale *Phra Abaimani* into issues and concepts.

1.3.4 Explained and linked the body of science and technology in the verse tale *Phra Abaimani* with the knowledge in science and technology in each of 6 subfields as mentioned above.

1.6 Described the results of the analysis through the text structured by the 6 science subfields' framework.

2. Analyzed the learning substances in the science strand of grade levels 1 – 4 prescribed by the 2001 National Curriculum relating to the body of knowledge of and imagination in the verse tale *Phra Abaimani*. The steps were as follows:

2.1 Compared the body of knowledge of science and technology analyzed from the verse tale *Phra Abaimani* with the learning standards in science at every grade level.

2.2 Chose the science learning substance standards at each grade level where the body of science knowledge analyzed from the verse tale *Phra Abaimani* could be used to design the instruction that related to the substance in the literature.

3. Set up the database in form of table to guide how to apply the body of knowledge in science and technology derived from the verse tale *Phra Abaimani* in designing the instruction on the science strand for grade levels 1-4.

### 3. Information Analysis

This research had employed the documentary research methodology which was the qualitative research. The researcher had followed the 2 steps as follows:

1) Regarding the analysis and explanation of body of and imagination in science and technology, the researcher had analyzed by reading through the text of the verse tale *Phra Abaimani* before fitting those pieces of knowledge into the 6 science subfields, namely, physics, chemistry, astronomy, geography, geology, and biology, as mentioned.

2) Took the categorized knowledge to link the science learning substances of grade levels 1 to 4 and presented the result in form of table.