

Abstract

This research, based on the classification of the Four Categories of Scientific Literacy set down by Garcia and referenced to "*Procedures for Conducting Content Analysis of Science Textbooks*", edited by Chiappetta, Fillman, and Settna (1991), is to analyze the amount and ratio of Scientific Literacy in the content. According to Macao Education & Youth Bureau's outline of Junior High Physics and Natural Science, the content of Macao's biology textbooks from Taiwan, Hong Kong and mainland China are compared. By analyzing the design of biology courses and the selection of biology textbooks of junior high schools in Macao, this research is intended to provide some information for editing biology textbooks that are suitable for Macao students to use locally.

As there is no local biology textbooks published in Macao, the current biology textbooks for junior high school from Taiwan, Hong Kong, Mainland China are taken as the target subjects of this research. Every textbook studied is chosen from a collection of surveyed samples for content and statistical analysis, and " paragraph" is the unit of analysis. The major purposes are: (1) To make a comparison on the design of junior high biology courses in Macao; (2) To analyze the selection of junior high biology textbooks in Macao; (3) To investigate the amount and the ratio of each textbooks content in the four categories of scientific literacy--- I .Science as a body of knowledge, II .Science as a way of investigation, III.Science as a way of thinking, IV.Interaction among science, technology and society (STS); (4) To compare the content distribution of similar textbooks of the same type from Taiwan, Hong Kong and Mainland China.

Biology courses are offered by 31 day-schools taught in Chinese. Most schools have separate biology subject offered through a 3-year design, but instruction time are the shortest when biology is taught as a separate subject. In addition, the most popular junior high biology textbooks used by schools in Macao are published by the Biology Department of the People's Education Press of Mainland China, which accounts 61.3% of the total. The result of analysis from 9 textbooks shows that all the textbooks' relative ratios in the I , II , III, and IV categories of scientific literacy are 4:3:1:1, respectively. This explains that biology textbooks mainly emphasize on "Science as a body of knowledge" in the content selection, but it also shows great importance to "investigate the reality of science". The content relevant to the 3rd category "Thinking Process" and the 4th category " STS" is relatively less. This result is quite similar to that of the analysis carried out by America and Taiwan on the same

type of textbooks. About 80% of the content of biology textbooks from these three regions are in compliance with the content of the biology outline for junior high school physics and natural science in Macao. In particular, 87.5% of the content in the Hong Kong's *the Latest Integrated Science* corresponds with the requirement of the outline of Macao. Out of the 24 items required to be taught, the major difference lies within three areas: global environment and organisms, reproductive system, and sensory system.