

Assessing Integration of Environmental Literacy Competencies in Sri Lankan Junior Secondary Science Syllabi: A Quantitative Content Analysis

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Abstract

Sri Lanka, despite its extensive history of environmental policy and legislation, experiences significant environmental challenges as a developing nation due to rapid urbanization and population concentration in urban areas. Given the severity of these environmental issues, policymakers prioritize environmental education, particularly during early adolescence. Providing students with a sound scientific background is essential for fostering environmental literacy. The study aims to assess the level of integration of environmental literacy competencies in Junior Secondary Science syllabi. A pragmatic, deductive quantitative content analysis was conducted. Ecological knowledge, issue identification and analysis, action planning, verbal and actual commitment, environmental sensitivity and feeling, and problem-solving and prediction were selected as the key environmental literacy skills through the literature review. The syllabi, developed by the National Institute of Education for the grade 6-9 science subject, were used for the analysis. The learning outcomes of the syllabi were systematically reviewed and coded to quantify the presence and emphasis of key environmental literacy skills. The results indicate varying levels of incorporation of environmental literacy, with rates of 43%, 30%, 8%, and 25% observed in grades 6, 7, 8, and 9 respectively. Notably, in grade 6, environmental literacy was incorporated across all competencies, whereas in subsequent grades, it was primarily integrated into the first and fourth competencies. Specifically, the analysis revealed a higher average incorporation rate of 58% for ecological knowledge, while other skills such as Issue Identification and Analysis, Action Planning, Verbal and Actual Commitment, Environmental Sensitivity and Feeling, and Problem-Solving and Prediction exhibited average incorporation rates of 15%, 2%, 10%, 10%, and 3% respectively. These findings emphasize the urgent need for Sri Lankan junior secondary curricula to prioritize environmental literacy skills and embrace a more practical approach to teaching and learning.

Keywords: Environmental Literacy, Syllabi, Junior secondary, Science