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科學文本中陳述語意關係的語言特性： 以國中階段科學教科書為例

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摘要

本文旨在分析科學教科書表達詞彙語意關係的陳述方式及其蘊含之語意特性。以國中階段南一、康軒及翰林等科學教科書作為分析文本，並透過科學文本分析資源（Science Textbook Analysis Resource, STAR）之電腦程式，分析科學教科書表達類別與組成關係的陳述方式及其蘊含之語意特性。研究發現，科學教科書利用三十七種不同陳述方式來表達語意關係，這些陳述方式具有動詞、連接詞、類別詞及符號等詞彙形式，並可區分為解構、組成、確認、含攝、指稱、列舉及符號等語意類型。它們在表達語意關係上反映出不同的語意特性，有些陳述方式表達單一語意關係，但有些卻用於表達兩種語意關係，使欲表達之語意關係相對隱晦，但這些陳述可轉化為動詞與類別詞的組成形式來述明其語意關係。最後根據研究結果提出文本編輯、科學教學及科學教科書研究等方面的思考與建議。

關鍵字：科學文本、科學語言、語意關係

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The Language Features of Describing Semantic Relations in Secondary School Science Textbook

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Abstract

Classification and Composition are important semantic relations of science lexicons which ordinarily are embedded in the sentences of science textbooks. The purpose of this study, hence, was to analyze the language features of these sentences and their semantics. Three science textbook versions of secondary school were analyzed by STAR program. The results showed 37 types were accessible to describe these two semantic relations. They could be divided into four lexical categories: verb, conjunction, classifier, symbol, and seven semantic types: decomposition, composition, identification, subsumption, reference, enumeration, and symbolization. These types revealed the diversity of language semantics. Some types indicated the specific semantic relations. On the contrast, others indicated the semantic relations more implicitly. However, these implicit types could be transferred into the explicit ones to definitely interpret the semantic relations. Finally, the study findings offered some implications and suggestions for textbook editing, science teaching, and research in science text.

Keywords: science text, science language, semantic relation