

Contents

Part I Introduction

- 1 The Criteria for Evaluating the Quality of the Science Textbooks.....** 3
Iztok Devetak and Janez Vogrinc
- 2 Development of the Graphical Analysis Protocol (GAP) for Eliciting the Graphical Demands of Science Textbooks.....** 17
Scott W. Slough and Erin McTigue

Part II Textual and Language Analysis of Science Textbooks

- 3 Understanding the Disciplines of Science: Analysing the Language of Science Textbooks.....** 33
Sandy Muspratt and Peter Freebody
- 4 Towards a More Epistemologically Valid Image of School Science: Revealing the Textuality of School Science Textbooks.....** 61
Kostas Dimopoulos and Christina Karamanidou
- 5 How Effective Is the Use of Analogies in Science Textbooks?.....** 79
MaryKay Orgill
- 6 Textual Features and Language Demands of Primary Grade Science Textbooks: The Call for More Informational Texts in Primary Grades** 101
Nadine Bryce

Part III Content Analysis of Science Textbooks

- | | | |
|-----------|---|-----|
| 7 | A Review of the Earth Science Content of Science Textbooks in England and Wales | 123 |
| | Chris King | |
| 8 | A Content Analysis of Science in Nineteenth-Century US Readers: Early American Science Education | 161 |
| | Peter Rillero | |
| 9 | Educational Approach to Environmental Complexity in Life Sciences School Manuals: An Analysis Across Countries | 173 |
| | Silvia Caravita and Adriana Valente | |
| 10 | Analysis of Turkish General Chemistry Textbooks Based on a History and Philosophy of Science Perspective | 199 |
| | Mansoor Niaz and Bayram Coştu | |
| 11 | An Analysis of Standards-Based High School Physics Textbooks of Finland and the United States | 219 |
| | Do-Yong Park and Jari Lavonen | |
| 12 | A Qualitative Method to Determine How Textbooks Portray Scientific Methodology | 239 |
| | Ian C. Binns | |
| 13 | Science and Science Teaching | 259 |
| | Nicos Valanides, Maria Papageorgiou, and Pavlos Rigas | |
| 14 | Content Analysis of Diagrams in Secondary School Science Textbooks | 287 |
| | Yang Liu and David F. Treagust | |

Part IV Conclusion

- | | | |
|--------------------|--|-----|
| 15 | Analysis of Science Textbooks for Instructional Effectiveness | 303 |
| | Myint Swe Khine | |
| Index | | 311 |