

CONTENTS

List of figures	x
List of tables	xii
Notes on contributors	xiii
Preface	xviii

PART I

Twenty-first-century science education 1

- 1 Promoting engagement in science education 3
Wendy Nielsen
- 2 The case for student-generated digital media assignments
in science courses 13
Will Rifkin and Amelia Hine
- 3 Researching science learning through student-generated
digital media 25
Garry Hoban

PART II

Implementation in science discipline and science teacher education courses 37

Podcast 39

- 4 Creative podcasting in chemistry: A case study 41
Emma Bartle

Digital story	55
5 Using digital stories to teach communication in the science curriculum <i>Emily Purser</i>	57
6 Stories and narratives: Using digital stories to learn science <i>Pauline Ross</i>	68
Video	81
7 Video interviews in science and engineering for professional perspectives <i>Julian M. Cox</i>	83
8 Video blogs: A vehicle to support student-generated representations and explanations in chemistry <i>Gwen Lawrie</i>	95
9 Student-generated videos for inquiry-oriented projects in environmental science <i>Gerry M. Rayner</i>	108
10 Student-generated dynamic worked examples as videos to enhance learning in STEM <i>Iouri Belski and Regina Belski</i>	122
11 Students' use of digital video in contemporary science teacher education <i>Matthew Kearney, Kimberley Pressick-Kilborn and Peter Aubusson</i>	136
Slowmation	149
12 Developing pedagogical knowledge of pre-service science teachers using slowmation as a shared experience <i>Stephen Keast and Rebecca Cooper</i>	151
13 Pre-service teachers' use of slowmation: Developing transformative learning <i>Gillian Kidman</i>	166

- 14 Learner reflections on the use of slowmation as a tool for creating effective explanations in a science teacher education program 176
Ruth Amos and Sandra Campbell

Blended media 195

- 15 Using blended media as a pedagogical tool for science learning in the USA 197
Dennis Jablonski
- 16 Multimedia production to promote an understanding of health literacy and communicate health messages 211
Karma Pearce
- 17 Musical explanations: Using blended media for learning biochemistry 225
Jessica Vanderlelie

PART III

Predictions for student-generated digital media 239

- 18 Future trends for student-generated digital media in science education 241
Alyce Shepherd

Index 251