Contents

Introduction	ý	1
Part A: Alternative methods and curricular transformation		7
1. Types of alternative and their pedagogical impact		9
2. The broader impact of humane education		27
3. Assessment of alternatives in education, Jonathan Balcombe		40
4. Curricular design: Choosing and planning a humane approach to life science education, Lara Marie Rasmussen		54
Conscientious objection: Roles and responsibilities for teachers and students		66
6. InterNICHE: Philosophy and practice		71
Part B: Case studies 1. Virtual versus real laboratories in life-science education: Concepts and experiences, Hans A. Braun		79 81
Implementation of computer-based alternatives in biomedical education, Henk van Wilgenburg		88
3. Teaching physiology is possible without killing, Mykola Makarchuk		95
4. Research project practicals for undergraduates in the biological sciences: Learning problem-solving strategies without animal experimentation, Garry C. Scroop		100
5. Client donation program to meet the needs of veterinary medical education: Alternatives to healthy animal sacrifice, Amarendhra M. Kuma	r ,	107
6. Ethical surgery training for veterinary students, Daniel D. Smeak		117
7. A pedagogically sound, innovative, and humane plan for veterinary medical education, Lara Marie Rasmussen, R. Ashley Robinson, Gary R. Johnston, Shirley D. Johnston		125

	135
	139
	157
	235
	251
ogy	/ 291
	306
	312
	317
	339
	389
	403
	405
	418
	425
	433
	470
	- 17
	495
	496
	Marie Carlo
to less min	505
22	506
s weeking bring the same	516