

<i>List of figures</i>	viii
<i>List of tables</i>	xi
<i>Preface: Why do we need new ways to teach? Virtual reality perspective</i>	xiii
LINDA DANIELA	
<i>List of contributors</i>	xvii

PART I

Virtual reality in humanities and social sciences 1

- 1 Virtual reality learning experience evaluation tool for instructional designers and educators 3

LANA FRANČESKA DREIMANE

- 2 The educational perspective on virtual reality experiences of cultural heritage 22

LINDA DANIELA AND YIPAER AIERKEN

- 3 The potentials of virtual reality in entrepreneurship education 38

MARKO OREL

- 4 Mixed Reality applied theatre at universities 49

JOSHUA A. FISHER

- 5 Development of professional skills in higher education: Problem-based learning supported by immersive worlds 64

E. FERNÁNDEZ-AHUMADA, J. MONTEJO-GÁMEZ,
P. SÁNCHEZ-ZAMORA, M. BENLLOCH-GONZÁLEZ,
L. ORTIZ-MEDINA, M. C. BEATO AND E. V. TAGUAS

6	Virtual reality and augmented reality in educational programs	82
	TOMAS BLAZAUSKAS AND DAINA GUDONIENE	
7	An exploration of the impact of augmented and Virtual Reality within compulsory education	95
	OLI HOWSON	

PART II

Concepts of virtual reality 111

8	Transcendent learning spaces	113
	NEUS LORENZO GALÉS AND RAY GALLON	
9	Enhancing trust in virtual reality systems	132
	DAVIDE SALANITRI, GLYN LAWSON AND BRIAN WATERFIELD	
10	Simulation data visualization using mixed reality with Microsoft HoloLens TM	147
	MICHAEL SPITZER, MANFRED ROSENBERGER AND MARTIN EBNER	
11	A+Ha!: Combining tactile interaction with augmented reality to transform secondary and tertiary STEM education	163
	GREGORY QUINN AND FABIAN SCHNEIDER	
12	The use of fuzzy angular models and 3D models on a construction method assessment on The Great Wall of China in Jinshanling as a case study of the history and heritage of civil engineering in education	182
	JIN RONG YANG, FABIAN HADIPRIONO TAN AND ADRIAN HADIPRIONO TAN	

PART III

Virtual reality in sciences and medical education 201

13	Virtual Reality for teaching clinical skills in medical education	203
	CHARLES HAND, RAPHAEL OLAIYA AND MOHAMED ELMASRY	
14	Virtual photoreality for safety education	211
	HAI CHIEN PHAM, ANH-TUAN PHAM-HANG AND THI-THANH-MAI PHAM	

15	Encouraging immersion in the Soil Sciences through virtual conferences where ideas are shared among avatars to improve the educational background of young scientists	224
	E.V. TAGUAS, E. FERNÁNDEZ-AHUMADA, L. ORTIZ-MEDINA, S. CASTILLO-CARRIÓN, M.C. BEATO, P. ALARCÓN RAMÍREZ, J.J. MARTÍNEZ MOLINA, C. PÉREZ MARTÍNEZ, M.C. DEL CAMPILLO, A.M. TARQUIS, J. MONTEJO-GÁMEZ AND J.E. GUERRERO-GINEL	
16	Educational technologies in the area of ubiquitous historical computing in virtual reality	240
	GIUSEPPE ABRAMI, ALEXANDER MEHLER, CHRISTIAN SPIEKERMANN, ATTILA KETT, SIMON LÖÖCK AND LUKAS SCHWARZ	
17	Virtual and augmented reality applications for environmental science education and training	261
	YUSUF SERMET AND IBRAHIM DEMIR	
18	ViMeLa: An interactive educational environment for the mechatronics lab in virtual reality	276
	TOOMAS TIKK, RAIN ERIC HAAMER, DOROTA KAMIŃSKA, ANNA FIRYCH-NOWACKA, SLAWOMIR WIAK, NAJMEH REZAEI, MARCIN LEFIK, GRZEGORZ ZWOLIŃSKI, TOMASZ SAPIŃSKI, GOGA CVETKOVSKI, LIDIJA PETKOVSKA, PAOLO DI BARBA, MARIA EVELINA MOGNASCHI, MIHAIL DIGALOVSKI, MAJA CELESKA AND GHOLAMREZA ANBARJAFARI	
	Lessons learnt from virtual reality in education	287
	LINDA DANIELA	
	<i>Index</i>	293