

Index

Symbols

- 2D 113, 149, 190
- 2D learning environments 33, 45, 53
- 2D web-based environments 32
- 3D 16, 17, 27, 29, 30, 61-67, 74-77, 81, 82, 112, 113, 118, 119, 127-145, 148-153, 159, 160, 165, 167, 169-177, 180, 182, 185-199, 204-211, 185, 211, 212, 213, 214, 217, 218, 222, 223, 224, 225
- 3D chat 113
- 3D computer game 289, 301
- 3D console-game 288
- 3D environment 99, 100, 104
- 3D Game Engine 185, 190, 191, 195, 196, 210
- 3D immersive environments 3, 6, 250, 256
- 3D immersive learning environments 249
- 3D immersive virtual environment 99, 100, 106, 110
- 3D immersive world 1, 11, 12, 13, 248
- 3D immersive worlds 1, 211, 222, 248
- 3D interfaces 76
- 3D learning environments 16
- 3D learning spaces 31, 32, 35, 39, 52, 53, 54
- 3D space 33, 58
- 3D spaces 35, 43
- 3D video games 77
- 3D virtual environment 211, 212, 213, 214, 217, 222, 223, 225, 211, 228
- 3D virtual environment. 107, 130, 136, 142, 225
- 3D virtual learning 229
- 3D virtual learning environments 229
- 3D virtual worlds 7
- 3D world 112, 118, 151, 272
- 3D worlds 2

A

- Aboriginal people 272
- Access to Virtual and Action Learning live ONline (AVALON) 152, 153, 155, 156, 159, 164
- A Chronicle of Education 101
- Action Learning 112, 115, 121, 128, 151, 153, 167
- action-reaction event 19
- Active Worlds 100, 107, 113
- Activity Theoretical model 151
- Activity Theory 112, 114, 115, 116, 124, 128, 151, 153, 154, 156, 163, 164, 165, 166, 167
- American K-12 education 74
- American Library Association (ALA) 105
- Appalachian Educational Technology Zone (AET Zone) 1, 2, 3, 7, 8, 14, 89, 90, 91, 96, 98, 99, 100, 103, 104, 105, 106, 109, 110
- Appalachian State University 1, 2, 5, 12, 14, 84, 85, 98
- Architectural Design 210
- artifacts 3
- artificial intelligence 67, 269
- Asperger syndrome 117
- Association of College and Research Libraries (ACRL) 99, 100, 104, 108
- Association of Learning Technology (ALT) 37
- asynchronous 2, 3, 4, 9, 11
- asynchronous collaborative teamwork 33
- asynchronous communications 228
- Augmentation 169, 184
- Augmentationist 169, 184
- augmented reality 61, 62, 82, 229, 240, 244

authenticity 72, 75, 76
autism 113
autistic spectrum disorders (ASD) 114
autonomous agents 63, 76
avatar 3, 5, 15, 30, 31, 33, 41, 47, 48, 49, 50, 53, 58-79, 82, 83, 89, 106, 107, 113, 120, 121, 123, 129-136, 139-145, 149, 160, 174-179, 182, 184, 187, 189, 193, 211, 212, 213, 218, 220, 225, 236, 248, 252, 254, 256, 260, 261, 262, 265, 269, 276, 279, 280, 290
avatar-based 3D virtual world 33, 54
avatar technologies 61, 65, 76
aviation industry 251, 266
Awareness 31, 58
Aztlan Island 64, 65, 73, 77

B

BBK learners 22, 23
Blackboard 89, 186
blog entries 9
blogs 32, 33, 34, 38, 47, 56, 57, 172, 178, 182
bot 248, 254, 261, 269, 270
British Educational Research Association (BERA) 38
broadcasting 33

C

CAD models 194, 195, 196
Call of Cthulhu 180
case-based learning 258
cerebral palsy 113, 117
Chinese 211, 212, 214, 217, 218, 219, 220, 221, 222
clinical education 252, 258, 260, 267
clinical training 252
cognitive constructivism 188
cognitive learning 227
cognitive paradigms 18
cognitive presence 10
collaboration 226, 227, 228, 229, 232, 233, 234, 236, 237, 238, 239, 241, 242, 245, 246
collaborative context 133
collaborative creation 33

collaborative learning 124, 146, 164, 166, 185, 187, 188, 204, 208, 229, 242, 245
collaborative platforms 135, 213
Collaborative Virtual Environment (CVE) 129, 132, 133, 143, 149, 185, 186, 187, 188, 189, 190, 194, 195, 196, 197, 198, 199, 200, 202, 203, 205, 226, 229, 241, 243, 246
collaborative work 288, 293, 299
Collaborative World Design Tool (CWDT) 185, 190, 191, 192, 193, 194, 195, 196, 198, 203
Colossal Cave Adventure 113
communication 129, 130, 131, 132, 133, 134, 135, 136, 137, 139, 140, 143, 144, 145, 148, 149
communicative environment 152
community of practice 86, 87, 107, 108, 131, 224
Community of Practice 1, 2, 10, 14, 84, 86, 98, 99, 110
competent design 248, 255, 256, 262, 264, 265, 266
computer-aided design (CAD) 226, 232, 233, 234, 242, 245, 246
computer game 289, 301
computer graphics 17
computer-human interactions 290
computer motherboard 48, 49
Computer Supported Collaborative Learning model (CSCL-model) 157, 160
Computer Supported Cooperative Work (CSCW) 210
computer technologies 228
Conceptual Framework 2, 3
console-game 288
constructivism 86, 87, 95, 185, 187, 188, 203, 229, 230, 232, 243, 277, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301
constructivist 226, 228, 229, 230, 232, 241, 242, 243, 245
constructivist learning 1, 4, 11, 12
constructivist learning environments 228, 232, 242, 245
Constructivist pedagogy 43

- contemporary learning theories 248, 266
 contemporary theories 249, 250, 262, 266
 context dimension 18
 contextual inquiry method 38
 contextual investigations 38
 co-presence 1, 14, 61, 71, 72, 82, 271, 276
 created environment 248, 249, 252, 253, 258, 259, 264, 266, 270
 created spaces 251, 256, 257, 258
 Critical Mass 1, 14
 Cross Collaboration Project 93
 cross-contextual interplays 274
 cross-cultural interaction 152
 cross-program collaboration 89
 cultural artifacts 211, 213, 215, 217, 218, 222, 223, 274
 cultural competence 249, 261, 264, 269
 cultural-elders 288, 289, 292, 293, 294, 299, 300
 cultural framing 259
 culturally competent design 248, 255, 256, 262, 264, 265, 266
 culturally competent practice 256
 cultural models 251
 culture and diversity 248, 249, 250, 256, 259, 260, 261, 263, 264
 curriculum 44
 Cyber Culture 156
 cybersex 172
 cyberspace 130, 131, 133, 147, 242, 243, 245, 252
 cyclic pedagogic method 167
- D**
- data sharing 229, 232
 decision making 6
 deconstruction 288, 290, 295
 deconstructionism 290, 296, 297, 298
 DELVE project 32, 53, 54
 Department of Leadership and Educational Studies (LES) 85
 designed experience 248, 249, 252, 253, 254, 257, 258, 259, 261, 266, 268, 270
 design education 228, 229, 230, 231, 232, 239, 241, 245
 design educator 43
 design learning 228, 238
 dialogic format 294
 Diatribes 294
 didactic instructional approach 43
 digital age 88
 digital avatars 63
 digital culture 249
 digital design 226, 228, 229, 231, 232
 Digital design skills 238
 digital face 133
 digital identity 149
 digital media 102
 digital natives 216
 digital spaces 132
 dimensionality 271, 272, 276, 280, 284
 disability 112, 113, 114, 117, 118, 119, 121, 122, 124, 125, 126, 127
 discussion board posts 4, 9
 discussion boards 3, 4, 9
 distance learning 226, 228, 241
 distant learning environments 228
 Division of Labor in Activity Theory 112, 128, 167
 Down syndrome 117
 Dungeons and Dragons 179
 dynamic aspects 130, 132
- E**
- ecology of culturally competent design 248, 255, 256, 262, 266
 educational platforms 248
 educational research 271, 272, 277
 educational strategies 227
 educational theory 250
 Educational Virtual Environments (EVEs) 229
 educational virtual world 255
 EDUCAUSE 171, 182, 183
 e-learning 17, 26, 28, 129, 130, 131, 133, 135, 142, 143, 144, 145, 148, 149, 252, 257
 electronic devices 290, 293, 295
 electronic information resources 102
 electronic-scale 288, 295
 e-mail 102, 150
 empirical investigations 32, 36, 37, 45, 52
 Enter-the-Story method 211, 212, 214, 215, 216, 217, 218, 222, 225

Environmental Presence 82
environmental science 272
episteme 171
Epistemological 144
equilibrium 131
ethnocentricity 87, 88
EU EACEA Life Long Learning Programme (LLP) 153
EUROCALL 212
experience design 228, 231
experiential-knowledge 289, 301
experiential learning 226, 230, 250
experiential learning theories 250
Experiential pedagogy 43
Extension and Distance Learning Program 85
extensive information technology 102

F

Facebook 16, 17, 33, 34, 170, 175, 176, 272, 293, 296
face-to-face 1, 2, 4, 5, 11, 15, 16, 17, 20, 21, 23, 32, 33, 34, 35, 41, 42, 54, 66, 74, 85, 89, 119, 120, 162, 174, 213, 228, 237, 272, 287, 298
face-to-face classroom 2, 4, 5, 11
face-to-face practices 16
face-to-face setting 54
fast-paced world 33
fictive world 271, 272, 276, 277, 278, 279, 280, 281, 283, 284, 286, 287
Fidelity 19
first-person shooter 170
flash-based tutorials 105
Flickr 17
folksonomic communities 272
formative feedback 23
four-dimensional framework 18, 22, 25
France 129, 135, 145

G

game-based environments 249, 250, 258, 260, 262, 266
game-based immersive environments 248
game-based learning 16, 18, 25, 26, 249, 253, 255, 259, 266, 268, 269
game-based settings 24

game-based virtual worlds 255
game design 255, 266, 267, 269
game-play 24
gameplay online 292
gamers 22, 24
gaming environments 54
generational change 227
gizmos 194
global aspect 292
globalization 87
global reach 17
Google 293, 294, 300
graphic design 228, 231
group-oriented activities 106
guild 114
Guitar Hero 170, 181

H

habit-of-mind 301
heteroglossia 277
higher education 226, 227, 242, 245
high-fidelity game 251
high-fidelity simulation 251, 267
holistic 86, 114, 154, 164
homo ludens 171
human-computer interaction (HCI) 54
human relations 133
Hypervirtual Telecopresence 61, 82

I

ICT-based content 153
ICT skills 22
Immersion 18, 19, 28, 30, 169, 179, 184
Immersionist 169, 184
immersive environments 248, 249, 250, 256, 264, 266, 267, 269
immersive experiences 18, 24, 25
immersive learning 15, 16, 17, 18, 20, 24, 25, 27
immersive learning environments 248, 249, 250, 256, 266
Immersiveness 211, 225
immersive spaces 250, 257, 266
immersive virtual reality 250
immersive worlds 15, 17, 24, 30, 248, 258, 264
IMPACT model 90, 91, 92

informal situations 39
Information Literacy 99, 110
Information Management (IM) 119, 120, 121
inner speech 215, 216, 222
Instant Messaging (IM) 275, 276
Instructional pedagogy 42
Instructional Technology (ITC) 89
Instructor Immediacy Behaviors 83
intellectual 6
interaction design 228, 231
interactive education 33
interactive learning 258
interactive learning environments 258
interactivity 18
International Society for Technology in Education (ISTE) 172
interpersonal coordination 187, 206
invisible college 133
in-world 248, 249, 252, 253, 254, 257, 258, 260, 261, 262, 263, 264, 269, 270
in-world identity 259
Island in Second Life 31, 58
Island Life 170

J

Javascript 173
JISC MyPlan project 15, 16, 20, 21, 22, 23, 24

K

Katamari 288, 289, 290, 291, 292, 293, 294, 296, 297, 298, 299, 300, 301
Key Activity 3 153
kinetic science 134
Kingdoms 211, 212, 217, 218, 219, 220, 222
knots 114
knowledgebase 33
knowledge-construction 289, 291, 292, 293, 299, 300

L

Language learning 212, 213, 222
Leadership and Educational Studies (LES) 85
learner-centered constructivist 1
learner centered philosophy 115, 117
Learner dimension 18

Learner Interaction 225
learning 31-57, 99-110, 151-167, 211-225
learning artifact 117
learning communities 3, 4, 6, 10, 11, 12, 13, 14
learning design 19, 23, 25, 29
learning environment 227, 228, 229, 230, 231, 232, 237, 240, 242, 243, 244, 245, 248, 249, 250, 251, 253, 256, 257, 258, 262, 263, 264, 266, 272, 275, 277, 280, 281, 282, 283, 286
learning experience 15, 19, 21, 24, 35, 41
Learning Management Systems (LMS) 114
learning theories 248, 250, 266
Learning Virtual Environments (LVEs) 229
Library Science (LIB) 89
Linden Lab 114, 120, 128
Linden Scripting Language (LSL) 173
logo 133
Ludus / Ludic 184

M

magic cottage 214
Massively Multi Online Role-Playing Gamers (MMORPG) 32, 139
massively multi-player online game (MMOG) 248, 252, 256, 266, 270
massively multi-protagonist online environments 272
massively multi-protagonist online games 271
massively-multiprotagonist worlds 275, 276
massive multi-user online virtual environment 114
media technologies 61, 74, 149
mediating artefact 154, 155, 160, 161, 162
Mediating Artifacts in Activity Theory 112, 128, 151, 167
metacognition 272, 273, 274, 287
metaphoric environments 129, 132
Metaplace 170
micro-culture 131
Millennials 169, 172, 174, 175, 176, 178, 179, 182, 183, 184
mixed realities 62, 72, 76, 83
mobile phones 16
monologue-formats 294
Moodle 89

mother tongue 152
Multiliteracies 184,
multimedia literacy 248, 250, 256
multiplayer online games 22
multi-player online games (MMOGs) 63
multiplayer online role-playing games 32
multi-protagonist online environments 272
multi-protagonist online games 271
Multi-User Domain Object Oriented worlds
(MOOs) 113
Multi-User Dungeons (MUD's) 150, 170, 254
Multi-User Object Oriented Virtual Worlds
(MOO's) 254
multi-user virtual environments 292
MySpace 275

N

National Distance Education Learning Week
105
neo-millennial 292
Networked Mind Instrument 71, 72, 83
New Media Consortium (NMC) 114, 172
Newtonian-scale 288, 295, 298
nings 172
non-gaming 3D virtual worlds 54
non-player character (NPC) 218, 248, 254,
258, 261, 265, 270
non-playing characters (NPCs) 213
Non-Verbal Communication 129, 133, 140,
149
non-verbal community 130, 136
novice-to-expert continuum 107

O

Objects in Activity Theory 128, 167
online environments 272, 286
online games 271
online learning experiences 1
online services 276
online setting 3
online virtual platforms 17

P

paideia 170, 171, 176, 184,
parallel stratigraphic alignment 290, 297

parametric design 228, 231, 238
pedagogical 1, 2, 6, 11
pedagogical approach 135
pedagogical value 64
Pedagogic dimension 18
pedagogy 32, 34, 35, 42, 43, 44, 52, 53, 55, 56,
89, 90, 94, 98, 131, 153, 169, 170, 172,
214
personal identifiers 5
person-to-machine relationship 136
person-to-person communication process 137
physical space 11
physical world 7
podcasts 32, 47
points of view 129, 131, 132, 143, 144
post-constructivism 288, 289, 290, 291, 293,
296, 298
post-constructivist 289, 291, 292, 293, 294,
295, 299, 300
postmodern 288, 290, 295
Postmodern 301
Power Point 186
pragmatic orchestral approach 144
Presence 1, 5, 9, 11, 14
Presence Pedagogy (P2) 1, 5, 14, 89, 90, 94,
98, 99, 104, 106, 108, 110, 131
Problem-Based Learning (PBL) 226, 227, 228,
229, 230, 231, 232, 235, 238, 243, 246
product design 228, 231
projective identity 248, 259, 263
proxemics 129, 130, 131, 134, 140, 142

Q

Q1 32
Q2 32, 42
Q3 32, 45
Q4 32, 45

R

Rambles 294
real-time interactions 33, 186
real world 113, 114, 116, 248, 250, 251, 252,
254, 256, 257, 258, 259, 260, 262, 263,
265
real-world problem 19
receivers 61

reflection-on-action 250
 Region in Second Life 31, 58
 Reifications / Selves / Phenomena (RSP) 273, 274, 277, 279
 representational dimension 18, 21
 Representational fidelity 211, 212, 225
 reproduction 288, 289, 290, 294, 295, 296, 297, 298
 reproduction qua reproduction 290
 Research Advisory Program (RAP) 104, 105, 106
 Resource-rich 3D immersive environments 6
 Rock Band 170, 175, 179, 181
 Rules in Activity Theory 128, 167

S

Schön's theory 250
 Second Life (SL) 15-27, 31-59, 62, 63, 64, 73, 77, 82, 100, 108-128, 135, 136, 138, 139, 142, 151, 152, 154, 155, 159-167, 169, 171-184, 212, 213, 223, 252, 254, 256, 257, 260, 268, 272, 275, 276, 277, 279-286, 292
 self-paced classrooms 45
 self-regulation 272, 274, 287
 senders 61
 sensory-motor mediation 137
 serio-ludic 171, 175, 176, 183, 184,
 serious game 249, 259
 simulated environments 31
 simulation-based games 22
 simulation-based learning 251, 252
 Simulator 31, 58
 situated learning 250, 263
 Six Learnings framework 271, 278, 287
 social behaviors 133, 273
 social communities 131, 132
 social constructivism 1, 14, 87, 98, 99, 110
 social constructivist 2, 6, 12
 social constructivist approach 33
 Social constructivist learning 211, 225
 social constructivist learning principles 188
 social context 7
 social-cultural artifacts 274
 social-cultural aspect 273
 social cultural environment 213, 215

social dimensions 130
 social educator 115, 116, 117, 118, 119, 120, 121, 122
 social groups 22, 24
 social interaction 133, 149, 273
 social interactions 16, 17, 20, 24, 25, 30, 105, 107, 115, 130, 133, 137, 138, 143, 189, 215, 219, 225
 social interactive 16, 20, 24, 26
 social interactive learning 16, 20, 24
 Social interactive Learning 15
 socialisation 34, 56
 socialization 31, 39, 43, 51, 52
 social learning theory, 14
 socially situated cognition 248, 254, 266
 social mask 133
 social medium 131
 social milieux 272
 social presence 61, 62, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 126, 187
 Social Presence 66, 67, 71, 74, 83
 social sciences research 38
 social software 32, 33, 56
 social spaces 134, 146
 social system 114, 115, 116, 128, 153, 167
 socio-constructivist 137
 socio-cultural theory 271
 sociological accounts 39
 socio-regulation 271, 274, 276, 277, 280, 284
 socio-technical systems 153
 Socrates 290, 301
 spectrum disorder 113
 spiritual aspect 273
 Spoken Electronic Language learning (SPELL) 213
 stakeholders' interactions 52
 Strategy Board-funded Serious Games: Engaging Training Solutions (SG-ETS) 15, 22, 23, 24
 stratigraphic 288, 290, 294, 295, 296, 297, 299
 stratigraphic alignment 290, 294, 297
 stratigraphic characteristics 295
 stratigraphic misalignment 296
 Subjects in Activity Theory 128, 167
 symbolic mechanism 50

synchronization of behavior 187

Synchronous 8

synchronous communication 32, 34

synthetic speech output 117

synthetic worlds 31

T

task-based learning 213

teaching 1, 2, 6, 7, 9, 10, 11, 14, 15, 16, 17, 18,
25, 30

techne 171

technical stage 136

Technology Enhanced Learning (TEL) 15, 22

telecollaboration 151, 153, 165, 166, 167

telecollaborative learning 151

tele-communication 61

Teleplace 98

tele-presences 61

TEL literature 16

text-based chat 32

text-based dialog 67

text chat 5, 9

The Commons 100

“The Deserted Library” 101

The Dreaming 271, 275, 280

the Dreamtime 272

theory-and-practice 289, 292, 296, 301

theory of learning 289

the Web 150

thinking-in-action 250

Thought and Language 215

Three-dimensional (3D) immersive learning 2

three dimensional (3D) virtual worlds 2, 5, 6,
10, 12, 14, 31-36, 52, 53, 54, 56, 85, 89,
97, 113, 228, 229, 231-246, 288, 292,
293

traditional classroom 1, 3, 10, 16

Triage Trainer 23

Twitter 77, 172, 272

two dimensional (2D) web learning environments 113

U

UK Technology 15

United States Air Force 212

Usability 31, 52, 56, 59

V

video conferencing 213

videogames 251, 267

video games 22, 28, 64, 77, 81, 217

virtual campus 252

Virtual Communities 129, 131, 150

virtual design 226, 228, 229, 232, 240, 243,
245

virtual design studios 226, 228, 229, 232

virtual environment 238, 240, 242, 243, 245,
246, 248, 254, 256-272, 276-282, 286,
287, 289, 292, 293, 298

virtual environments 17, 19, 26, 28, 30, 39, 54,
55, 57, 58, 74, 77, 79, 80, 82, 226, 228,
229, 230, 238, 241, 243, 245

Virtual Environment (VE) 185, 186, 187, 188,
189, 190, 191, 193, 194, 195, 203, 208,
209, 210

virtual ‘globes’ 292

Virtual Harlem 169, 172, 175, 180, 181

virtual hospitals 256

virtual immersive environments 250

virtual immersive worlds 258

virtual infidelities 172

Virtuality 75, 83

virtual learning 229, 231, 232, 258, 261, 264

virtual learning environment 280

virtual learning environments 229, 231, 232,
258, 264

virtual library 100, 101, 103, 107, 109

virtually copresent 73

virtually present 73

virtual reality 61, 64, 66, 72, 73, 75, 77, 78, 81,
249, 250, 252, 253, 255, 257, 264, 266,
267, 270

virtual reality environments 249, 266

virtual reality environment (VRE) 214

Virtual Reality (VR) 226, 227, 229, 230, 231,
232, 233, 235, 237, 238, 239, 241, 244

Virtual Reality (VR) environments 230

virtual replication 19

virtual situations 18

virtual space 250, 252, 254, 256, 257, 258,
259, 261, 262, 265

virtual task 259

virtual world 15, 17, 18, 20-25, 27, 30-35, 43, 52, 54, 56, 58, 59, 61-68, 71-83, 151, 152, 155, 157, 162, 165, 166, 167, 169, 170, 171, 174, 175, 176, 177, 178, 181, 182, 228-246, 250-270

Virtual World 31, 59

virtual worlds 1, 6, 7, 8, 9, 11, 12, 13, 15, 16, 17, 20, 22, 24, 25, 26, 27, 28, 29, 30, 271, 275, 281, 282, 288, 292, 293, 297, 298, 300

Virtual worlds (VW) 113, 114, 118, 121, 122

Virtual World Watch project 212

visual realism 32, 36, 45, 46, 47, 48, 53

voice-over internet protocol 213

Voice over IP (VoIP) 3

VoIP audio 5

VR technologies 230

W

Web 2.0 1, 3, 11, 14, 272, 281

Web Alive 32

web-based education 249

web-based environment 89, 101
web-based environments 254, 262, 280

web-based technologies 17

web-based tools 14

web-page-based platforms 228

web-services 276

website usability 54

web usability 54

Wikipedia 16, 17

wikis 32, 170, 171, 172, 173, 176

WorldEditor interface 191

World of Phenomena 273

World of Reifications 273

World of Selves 273

World of Warcraft (WoW) 139, 170, 179, 256, 257, 272, 275, 276, 277, 282

Z

zone of proximal development (ZPD) 188

Zone of Proximal Development (ZPD) 272, 274, 287

Zone of Regulatory Development (ZRD) 271, 272, 274, 275, 276, 280, 286, 287