

Index

Page references followed by *fig* indicate an illustrated figure; followed by *t* indicate a table.

A

- ABC (TV station), 10
- Action oriented principle, 71*fig*, 75, 78*t*
- ADDIE analysis step: environment decisions, 218–220; overview of, 217; task, concept, or skill decisions, 217–218; technical considerations, 220
- ADDIE design step: consider the debriefing, 228; creating environment and learning structures, 222–223; design outside of reality, 228; overview of, 221; sequence and instructional elements, 222; storyboard used during, 228, 229*fig*; synchronous vs. asynchronous decision, 221
- ADDIE develop step, 228–230
- ADDIE evaluation step, 232
- ADDIE implement step: after the 3DLE event is over, 231; prior to starting learning event, 230–231
- ADDIE model: exploring VIE and 3DLE development using, 203–204, 216–232; four steps in the, 217–232
- Agency macrostructure: description of, 79*fig*; Second Life Kristallnacht installation and, 149
- Amazon, 9, 14
- The American Institute for Managing Diversity, 122
- America's Army*, 108
- Americas Learning and Development (Ernst & Young): inventory observation solution created by, 134–142, 319; 3DLE partnership with AABS, 133–134
- Anderson, Chris, 9
- AoT (Academy of Technology) [IBM]: AoT Virtual World Conference sponsored by, 193–199, 257; background information on, 190–191; Virtual Worlds Conference participation by, 191–193
- ARAPANET, 314
- Archetypes. *See* 3DLE archetypes
- Architecture. *See* 3DLE architecture
- Assurance and Advisory Business Services (AABS): inventory observation solution created by, 134–142, 319; 3DLE partnership with EY's Americas Learning and Development, 133–134
- ASTD's *State of the Industry Report*, 34
- AstraZenca, 261, 313
- Asynchronous environment, 221
- Attractiveness criteria: compatibility, 243–244; complexity, 244–245; description of, 241;

- Attractiveness criteria: compatibility, (*Continued*)
 observability, 246–247; relative advantage,
 241–243; trialability, 246
- Authentic learning context, 63
- Autodesk's Maya, 210
- Autonomous learner problem, 29–31
- Avatar Persona archetype: comparing Jane's and Jack's,
 58; creating the, 92*fig*–94*fig*; evolution from ape to,
 341*fig*; evolution from emoticons to, 57–58, 59*fig*;
 formal definition of, 92; Global Women's Action
 Networks (WAN), 131*fig*; peer-to-peer collaboration
 between two, 215*fig*; recognition as extension of
 self, 57; research on behavior of, 57–58; tips on
 designing, 224–225; transferring knowledge to, 328
- Avatars* (Damer), 302
- B**
- Ball State University (Indiana): Center for Media Design at,
 168; Introduction to Rhetoric and Academic Research
 course at, 166; teaching rhetoric in virtual environment
 at, 166–173; virtual Kool-Aid students of, 169–170*fig*,
 171–172, 317
- Bauer, Brian: interview on 3DLE with, 291–299;
 introduction to, 274
- Bell Labs, 314
- Berks College (Pennsylvania State University): description
 of, 173; virtual environmental science teaching at,
 173–181
- Bezos, Jeff, 9
- Blizzard Entertainment, 13
- Blogs, 18
- Bloomsburg University's Second Life Island, 175*fig*–181
- BP (formerly British Petroleum): description of,
 181–182; Global Graduate Challenge (GGC)
 created by, 182–190
- Brin, Sergey, 8
- BSO (Border Service Officer). *See* Virtual Border Service
 Officer Training
- Buggy-whip experience, 69–70
- Bundy, Abbott, 318*fig*
- Business case for VIEs: current systems and legacy
 content, 258; final recommendation, 259; financial
 comparison and analysis, 259; key objectives and
 success indicators, 257–258; overview of making
 the, 253–254; problem description, 255–256;
 problem statement, 254–255; proposed solution,
 256–257; revolutionaries interviews making,
 273–307
- Business unusual activities, 20–22
- BusinessWeek*, 13, 44, 122
- C**
- California Department of Health Services, 109
- California Exposition and State Fair model, 110
- California State University in Los Angeles, 57
- “Camera clipping,” 224–225
- “Campfire 3.0—The Next Generation Collaboration and
 Work Space” (Hamilton), 324–330
- Canadian Border Service Officer (BSO): traveler
 interviews conducted by, 158; virtual training of,
 158–165
- Canadian Border Services Agency (CBSA), 158
- Case studies: format and interview questions used in,
 121–122; summary list of individual, 120*fig*. *See also*
 3DLE (3D learning experience); Training
- Case study list: 1: Microsoft/Sodexo and Cisco cases,
 120*fig*, 122–133; 2: Experiencing an Inventory
 Observation, 120*fig*, 133–142, 319; 3: Recreating
 the Kristallnacht Experience in Second Life, 120*fig*,
 142–151; 4: Creating Virtual First-Responder
 Learning Experience, 120*fig*, 151–158; 5: Virtual
 Border Service Officer Training, 120*fig*, 158–165,
 257, 318–319; 6: Teaching Rhetoric in a Virtual
 Environment, 120*fig*, 166–173; 7: Environmental
 Science in a Virtual Green Home, 120*fig*, 173–181;
 8: Creating a Virtual Challenge for Global
 Graduates, 120*fig*, 181–190, 257; 9: Hosting
 Virtual Academy of Technology Events, 120*fig*,
 190–199
- Castronova, Edward, 14
- CATT (Center for Advanced Transportation
 Technology) Lab [University of Maryland], 151,
 153–154
- Centra, 212–213
- Champions, 247–248, 252
- Chung, Anshe, 13
- Cisco: challenge facing, 126; Global Women's Action
 Networks (WAN) solution for, 127–132
- City of Heroes*, 241
- Classroom-centric model: traditional teacher-student, 26;
 virtual reconstruction of, 315–317
- Co-Creation archetype: creating the, 111–113; formal
 definition of, 111
- Co-creation value proposition: social facilitating
 archetype enabling, 111–113; 3D learning maturity
 model on, 320–322; as VIE sensibility, 60–61;
 wealth creation through, 11; Wikipedia and Linux
 examples of, 12. *See also* Value creation proposition;
 VIEs (virtual immersive environments)
- Collaboration: as experiential design principle,
 76–77, 78; Immersive Internet facilitation of,
 12–14; 3DLE design encouraging peer-to-peer,
 214–215*fig*; as 3DLE design principle, 71*fig*,
 76–77, 78; virtual collaboration for right- and
 left-brain, 327
- Command-and-control-based economic model, 21
- Compatibility criteria, 243–244
- Complexity criteria, 244–245

- Compounded marginalization issues: overview of, 35–36*fig*; painted into a corner, 37–38; performance predicaments, 37; rejecting informality, 36–37
- Concept content decisions, 217–218
- Conceptual Orienteering archetypes: creating the, 104*fig*–107*fig*; formal definition of, 104
- Coné, John, 253
- Confucius, 324
- Connectedness macrostructure, 79*fig*, 80
- Connectors (opinion leaders), 247, 252
- Consequentially experienced principle, 71*fig*, 76, 78*t*
- Conservatives, 247, 250–251
- Content: adoption of VIE and handling legacy, 258; decisions on task, concept, or skill, 217–218; 2D use of pre-established, 212–213
- Context developer/builder, 210–211
- Contextually situated principles, 71*fig*, 73–74, 77*t*
- Cooper, Martin, 314
- Cost comparisons/analysis, 259
- Creating a Virtual Challenge for Global Graduates: background information on, 181–183; benefits and results of, 187–189*t*; description of, 184–187; lessons learned on, 189–190; macrostructure map of, 188*fig*; making the case for, 183–184
- Critical Incident archetype: creating the, 107–111; formal definition of, 107
- Crossing the Chasm* (Moore), 241, 303
- Crowdsourcing, 12
- ## D
- Damer, Bruce, 302
- Death of distance, 58–59
- Debriefing, 228, 231
- Dell Computers, 253
- Design principles. *See* 3DLE design principles
- “Designing Learning Spaces in VIE” (Pursel), 223–227
- Diffusion of Innovations Theory: attractiveness criteria influencing, 241–247; definition of, 240, 241
- Discovery driven principle, 71*fig*, 74–75, 77*t*
- Disruptive technologies, 20, 24–25
- Double Happiness Jeans (Second Life virtual factory), 311–314
- Driver, Erica, 264
- Driver, Sam, 264
- Drucker, Peter, 25
- Duke Corporate Education (Duke CE), 273, 275, 278
- ## E
- e-Vites, 4
- Eastwich, Paul W., 58
- eBay: business conducted on, 11, 20; value exchange platforms of, 14, 16
- Education case for VIEs: current systems and legacy content, 258; final recommendation, 259; financial comparison and analysis, 259; key objectives and success indicators, 257–258; overview of making the, 253–254; problem description, 255–256; problem statement, 254–255; proposed solution, 256–257; revolutionaries interviews making, 273–307
- Educators. *See* Learning professionals
- eLearning Guild, 45, 91, 205
- Emergency responders training. *See* Virtual First-Responder Learning
- Emoicons, 57–58, 59*fig*
- Enterprise adoption: crafting the business or education case for, 253–272; Diffusion of Innovations Theory on, 240–247; implementation considerations for, 259–263; implications for learning professionals, 271–272; “Lessons from the Front Line” (Driver and Driver) on, 264–271; predictions for future VIEs and 3DLE, 340*t*; revolutionaries on adoption, use, and future of VIEs/3DLE, 273–307; selling to techies and visionaries for, 249–250; technology adoption continuum of, 247–253. *See also* Innovation
- Environment: creating learning structure within, 222–223; development decisions related to, 218–220; knowledge development through interaction with, 97–99; synchronous vs. asynchronous, 221; VCE (virtual corporate environment), 296. *See also* VIEs (virtual immersive environment); Virtual social worlds (VSWs)
- Environmental Science (Bi Sc 003) [Berk College]: description of course, 173–174; virtual green home for teaching, 174–181
- Ernst & Young (EY): inventory observation solution created by, 134–142, 319; 3DLE partnership with AABS, 133–134
- “Escaping Flatland: The Emergence of 3D Synchronous Learning” (eLearning Guild), 91
- Étape Partners LLC, 274, 291
- EverQuest*, 13, 241
- Experience macrostructure, 79*fig*, 80
- Experiencing an Inventory Observation: background information on, 133–134; description of, 135–139*fig*, 319; lessons learned from, 141–142; macrostructure map of, 140*fig*; making the case for 3DLE solution, 135; results of, 140–141
- Experiential design principles: action oriented, 75, 78*t*; collaboratively motivated, 76–77, 78*t*; consequentially experienced, 76, 78*t*; contextually situated, 73–74, 77*t*; description of, 72–73; discovery driven, 74–75, 77*t*; illustrated diagram of, 71*fig*; participant centered, 73, 77*t*
- Experiential Learning* (Kolb), 61
- Experiential learning process, 61–62
- Experiential principles, 71*fig*, 72–73
- Exploration macrostructure, 79*fig*

F

Facebook: estimated users of, 10; Jessica's use of, 4, 5, 6–7; social networking on, 10; 3D versions of, 14; “tipping point” for widespread adoption of, 242

Fanning, Shawn, 10

Financial comparison/analysis, 259

“Find” value proposition, 8

Flickr, sharing media using, 11

Ford, Henry, 20, 21

Friedman, Thomas L., 326

Future VIE/3DLE application predictions, 340*t*

FutureWork Institute, Inc. (FWI): description of, 122; Global Women's Action Networks (WAN) created by, 120*fig*, 126–133; Virtual Global Inclusion Summit created by, 120*fig*, 122–126, 127*fig*

G

Galvanek, Paxton, 108

Gatekeeper, 247

Gates, Bill, 25

Gender play preferences study, 57–58

Generative learning: description of, 28, 39–40; social construction of, 38–39

Geographic issue, 58–59

Gery, Gloria, 27

Gladwell, Malcolm, 241, 242, 247, 328

Global Graduate Challenge (GGC) [BP]: background information on, 182–184; benefits and results of, 187–189*t*; description of, 184–188; Fordadland 2025 challenge in, 184–185; Global graduate Village environment of, 184–188; lessons learned from, 189–190; macrostructure map of, 188*fig*

Global Kids, 145

Global Women's Action Networks (WAN): background information on, 126; benefits of, 132; description of, 128*fig*–131*fig*; lessons learned from, 132–133; macrostructure map for, 132*fig*; making the case for, 127–128

Google: organizing information mission of, 5; PageRank search algorithm basis of, 8–9; value exchange platforms of, 14

Google Earth, 160–161

Grounding design principles: description of, 72; illustrated diagram of, 71*fig*; instructionally grounded, 72, 77*t*; reflectively synthesized, 72*fig*, 78*t*

Group Forums archetype: creating the, 114–115*fig*; formal definition of, 114

Guided Tour archetype: creating the, 100*fig*–102; formal definition of, 99

Guided tours, 100*fig*–102

Gutenberg, Johannes, 26

H

Halal, William, 54

Hamilton, Chuck, 71, 324

Hamilton, Mike, 134, 135

Hengeveld, John: interview on 3DLE with, 299–304; introduction to, 274

Hinrichs, Randy J., 71, 85, 330

Hosting Virtual Academy of Technology Events: background information on, 190–193; description of, 194*fig*–197; lessons learned from, 198–199; macrostructure map of, 196*fig*; making the case for, 193; results of, 198

Hudson, Ken, 71

Hunter, Dan, 14

I

I-95 Coalition, 151, 152, 154

IBM: Academy of Technology (AoT) of, 190–192, 257; AoT Virtual Worlds Conference of, 191–199; Global Innovation Outlook of, 19–20; 3-D Internet research by, 273; 3DLE adoption process by, 280–291; Virtual Universe Community (VUC) of, 191

IBM Research, 273

IGE (currency exchange), 13

IM (instant messages) [Kristallnacht installation], 149–150

Immersive Internet: collaborative and co-creation functions of, 12–14; focus within the web, 7, 8*fig*; learning experience transformed by the, 44–45; singularity of the, 16–20, 18*fig*; social production possibilities of, 14–16, 22; transforming impact of, 27; Wikipedia as bridge from Web 2.0 to, 12. *See also* Internet

Immersive Internet convergence: 1: immediate networked virtual spaces, 17; 2: intuitive dynamic knowledge discovery, 18–19; 3: integrated 3D social networking, 19; 4: immersive 3D learning experiences, 19–20

Immersive learning experience (ILE): description of, 135; EY AABA creation of Experiencing an Inventory Observation, 133–141; lessons learned about, 141–142

Implementing VIEs: choosing the right pilot group, 261–262, 305–306; considerations for, 259–260; “Lessons from the Front Line:” (Driver and Driver) on, 264–271; overcoming obstacles, 263–271, 275–307; strategy used for, 260–261

Information technology (IT): included in the 3DLE transition, 211, 307; Web 1.0 wave and role of, 8. *See also* Technology

Innovation: converting knowledge into value through, 21; Diffusion of Innovations Theory on adoption of, 240–247; disruptive technologies, 20, 24–25; insights driving, 21. *See also* Enterprise adoption

- Instructional designer, 210
 Intel's Digital Enterprise, 274
 Internet: as disruptive technology, 25; IBM's 3-D Internet concept of, 273; invisibly pervasive nature of, 4–6. *See also* Immersive Internet
 Inventory Observation. *See* Experiencing an Inventory Observation case
- J**
- Jack: archetypes created for 3DLE of, 90–116; comparing avatars of Jane and, 58, 59*fig*; comparing his 3D learning experience to Jane's 2D one, 54–56; comparing seven sensibilities of VIEs and 3DLE of, 57–62; design principles used in 3DLE by, 70–78*t*; 3D learning experience by, 48–53*fig*
 Jane: comparing avatars of Jake and, 58, 59*fig*; comparing her 2D learning experience to Jack's 3D one, 54–56; comparing seven sensibilities of VIEs and 2DLE of, 57–62; 2D learning experience of, 45–48
 Jessica's story, 3–4, 6
Journal of Applied Developmental Psychology, 57
 Juan: contrasting Sylvia's 3D design team to 2D design team of, 209–211; 2D synchronous design by, 205–206
- K**
- Kapp, Karl, 318*fig*
 Keeseey, Christopher, 71
 Keeter, Karen: interview on 3DLE with, 280–291; introduction to, 273
 Knowledge: developed through interaction with environment, 97–99; group forums to create and share, 114–115*fig*; small group work to create and share, 113*fig*–114; transferring to avatar for safekeeping, 328. *See also* Learning
 Knowledge broker, 247
 Knowledge entrepreneur, 338–339
 Kolb, David, 61
 Kool-Aid men (Ball State University), 169–170*fig*, 171–172, 317
 Kristallnacht Experience in Second Life: background information on, 142–144; benefits of, 148–149; description of, 145–148; lessons learned from, 150–151; macrostructure map of, 148*fig*; making the case for, 144; results of, 149–150. *See also* United States Holocaust Memorial Museum
 115–116*fig*; readiness of, 220–221; VIE development role of representative, 211
 Learning: compounded marginalization issue of, 35–38; four-step process of experiential, 61–62; generative, 28, 38–40; Immersive Internet transformation of, 44–45; matching archetypes and type of, 117*t*; networked, 38–39, 45, 115–116*fig*; productive, 29, 39; technology as revolutionizing, 39–40; 3D majority model levels and types of, 322–323*t*; 3DLE authentic context for, 63; 3DLE's embedded peer-to-peer, 64; two primary form-factors of, 28; 2DLE and 3DLE differences and implications for, 64–65; VIE opportunities to demonstrate, 215–216. *See also* Knowledge; 3DLE (3D learning experience)
 “Learning Archetypes as Tools of Cybergogy for 3D Educational Landscape: A Structure for eTeaching in Second Life” (Scopes), 91
 Learning management system (LMS), 254, 258
 Learning models: “master apprentice,” 26; on-the-job, 26; seven scary problems with status quo training and, 29–35; teacher-student classroom-centric, 26
 Learning objectives: making the VIE business case using, 257–258; 3DLE minimal guidelines for achieving, 214; 3DLE unique approach to, 213–214; 2D synchronous learning, 213; VIE collaborative approach to achieving, 214–215*fig*
 Learning professionals: enterprise adoption implications for, 271–272; 3DLE archetypes implications for, 117–118; 3DLE architecture implications for, 84–88; 2DLE and 3DLE differences and implications for, 64–65; VIE and 3DLE development implications for, 237. *See also* Training
 “Learning to Be 3D in 2020” (Hinrichs), 330–342
 Learning while doing, 61
 Legacy content, 258
 “Lessons from the Front Line: How Early Adopters Achieve and Measure Success” (Driver and Driver), 264–271
 Libby, Lisa, 93, 94
 Lie Meeting, 17
 Linden Dollar currency, 13
 Linden Lab: social production value provided to, 16; value exchange platforms of, 14
 LinkedIn, 4
 Linux operating system, 12
 Lost Colony (Roanoke Island), 23–24, 26
 Loyalist College (Canada): Customs collaboration with Virtual World Design Centre of, 159–165, 257, 318–319; Justice Studies program offered by, 158
 Luther, Martin, 25
 Lycos, 8
- L**
- Learners: building in incentives for, 216; debriefing the, 228, 231; as knowledge entrepreneur, 338–339; networking for knowledge by, 38–39, 45,

M

Macrostructures. *See* 3DLE macrostructures

Mahaley, Steve: interview on 3DLE with, 275–280; introduction to, 273; 3DLE design principles model contribution by, 71*fig*

Martin, Joanne, 192–193

Maryland State Highway Administration, 151

“Master apprentice” learning model, 26

Maya (Autodesk), 210

Mengel, Mary Ann, 173, 174, 175, 177

Mercedes-Benz, 257

Meyers, John M., 173, 175

Microsoft/Sodexo case: diversity challenge facing, 122–123; lessons learned by, 132–133; Virtual Global Inclusion Summit solution for, 123–126

Miller, Joe, 16

MIT (Massachusetts Institute of Technology), 274

MMORPG (massively multiplayer online role playing games): *America’s Army*, 108; built in incentives in, 216; *City of Heroes*, 241; comparing VIEs and, 43*fig*–44; *EverQuest*, 13, 241; *World of Warcraft (WoW)* as, 12–13, 14, 216, 241

Model Z power drill 3DLE examples: building display for Model Z drill as class exercise, 53*fig*; hunting for flags on giant Model Z drill, 50*fig*; pre-class exercise on, 49*fig*; trade show product display for Model Z drill, 52*fig*

Model Z power drill lesson: archetypes created for, 90–116; comparing 2D and 3D teams development of, 209–211; comparing the 2DLE and 3DLE with, 54–56; description of Jack’s 3DLE, 48–53*fig*; description of Jane’s 2DLE, 45–48; seven sensibilities of VIEs and 3DLE approach to, 57–62; 3D synchronous design of, 206–209; 3DLE design principles used in, 70–78*t*; 2D synchronous design of, 205–206. *See also* Training

Moore, Geoffrey, 241, 303

Mosaic web browser, 4

Motorola, 253

MP3 music files, 10

MySpace: estimated users of, 10; social networking on, 10; 3D versions of, 14; value exchange platforms of, 14

N

Napster, 8*fig*, 9, 10, 12

Netizens: definition of, 9; innovative co-creation forms available to, 11; media sharing by, 11; Wikipedia outsourcing to, 12

Networked learning: as new vision for learning, 38–39; Web 2.0 and Immersive Internet enabling, 45. *See also* Social networking

New York Times, 93

Newton, Sir Isaac, 20

Nielsen ratings, 10

“Night of Broken Glass.” *See* Kristallnacht Experience in Second Life

9/11, 158, 159

Ning, 17

Nintendo Wii, 329

Northwestern University, 58

O

Observability criteria, 246–247

Obstacles: Brian Bauer on overcoming, 291–299; John Hengeveld on overcoming 3DLE, 299–304; Karen Keeter on overcoming, 280–291; Steven Mahaley on overcoming, 275–280; suggestions for avoiding typical, 263; ThinkBalm study on strategies for overcoming, 264–271

O’Driscoll, Tony, 107*fig*

Ohio State University, 93

Olbrish, Koreen, 258, 260, 314

Omidyar, Pierre, 11

On-the-job learning model, 26

Open source software, 12

Operational Application archetype: creating the, 102–104; formal definition of, 102

Opinion leaders (connectors), 247, 252

Outliers (Gladwell), 328–329

P

Pablo, Derrick, 205, 206

Packaging learningproblem, 31–32

Page, Larry, 8

PageRank search algorithm, 8–9

Peer-to-peer learning, 64

Penn State Berks Center for Learning and Teaching, 174

Performance: compounded marginalization effect on, 35–38; content decisions related to task, 217–218; learning problem related to, 32–33; 3D learning facilitating authentic practice of, 319–320

Personal information management (PIM), 3228

Pilot program: catching problems through use of, 261; revolutionaries’ rules on, 305–306; suggestions for selecting the right group for, 261–262, 305–306

Pink, Daniel, 327

Power of presence, 59–60

Practice for learning, 61

Pragmatists, 247, 250

Printing press, 20, 24–25

Problem description section, 255–256

Problem solution section, 256–257

Problem statement section, 254–255

Productive learning, 29, 39
 Project manager, 210
 Promise of Diversity Innovation Award, 122
 Protestantism, 25
 Proton Media, 105
 ProtoSphere: small group meeting in, 113*fig*;
 socializing in, 116*fig*; virtual representative of car
 collisions in, 105
 Prototyping design tips, 225
 Pursel, Barton, 223

R

Recall (3DLE contextual cues for), 63
 Recreating the Kristallnacht Experience. *See* Kristallnacht
 Experience in Second Life
 Relative advantage criteria, 241–243
 Representative of learner population, 211
 Revolutionaries. *See* Webvolution revolutionaries
 interview
 “Right-brain thinkers,” 327
 Roanoke Island settlement (1587), 23–24, 26
 Robbins, Sarah “Intellagirl,” 71, 166, 167, 168, 244
 Rogers, Everett, 241, 244, 246
 Role Play archetype: creating the, 95*fig*–97; formal
 definition of, 95
 Routinization phenomenon, 25, 26–27, 33
 Royer, John, 313, 2261

S

Scavenger Hunt archetype: creating the, 97–99; formal
 definition of, 97
 Scopes, Lesley, 91
 Scripter/programmer, 211
 Second Life (SL): Bloomsburg University virtual
 green island build in, 175*fig*–181; comparing
 MMORPG players to those of, 44; creating
 inventory observation in, 135; description of, 13,
 14; Double Happiness Jeans factory on, 311–314;
 “Info Fez” used for self-guided tours in, 100*fig*, 101;
 Kristallnacht (1938) commemoration in, 142–151;
 schizophrenic orientation available in, 105–106;
 setting up virtual dance on, 6–7; social production
 created through, 16; tapping into talent and
 creativity using, 16; Teaching Rhetoric in a Virtual
 Environment using, 166–173; Virtual Border
 Service Officer Training in, 158–165. *See also* VIEs
 (virtual immersive environments); Virtual social
 worlds (VSWs)
 Self-guided tours, 100*fig*–102
 Sense of self, 57
 Sense of space/scale, 60
 SharePoint, 17
 Skeptics, 250, 251

Skill content decisions, 217–218
 Sloan, Alfred, 20, 21
 Smith family, 23–24, 26
 Social networking: archetypes created for, 115–116*fig*;
 Facebook used for, 4, 5, 6–7, 10, 14, 242;
 integrated 3D, 19; MySpace used for, 10, 14;
 Twitter used for, 242, 258; Web 2.0 technologies
 used for, 4–7, 10; YouTube used for, 11. *See also*
 Networked learning
 Social Networking archetype: creating, 115–116*fig*;
 formal definition of, 115
 Social production: description of, 15–16; economic
 models challenged by, 22; Immersive Internet
 possibilities for, 14–16; Webvolution
 encouraging, 15*fig*
 Socio-technical system acceleration, 4–6
 Sodexo/Microsoft case: diversity challenge facing,
 122–123; lessons learned by, 132–133; Virtual
 Global Inclusion Summit solution for, 123–126
 Sponsors: Brian Bauer on securing, 295; enterprise
 adoption and, 248, 253; John Hengeveld on
 securing, 303–304; Karen Keeter on securing,
 286–287; Steven Mahaley on securing, 277
 Steam engine, 20, 24–25
 Storyboard, 228, 229*fig*
 Strategic National Stockpile, 109–110
 Subject-matter expert, 210
 Sylvia: contrasting Juan’s 2D design team to 3D
 design team of, 209–211; 3D synchronous
 design by, 206–209
 Synchronous environment, 221. *See also* 2DLE
 (2D learning experience)
Synthetic Worlds (Castronova), 14

T

Tandem Learning, 258, 314
 Tasks: content decisions related to, 217–218; 3D
 learning facilitating authentic practice of,
 319–320*fig*
 Teacher-student classroom-centric model, 26
 Teaching Environmental Science in a Virtual Green
 Home: background information on, 173–174;
 benefits of, 178–179; description of, 175*fig*–178;
 lessons learned from, 180–181; macrostructure
 map of, 178*fig*; making the case for, 174–175;
 results of, 179–180
 Teaching Rhetoric in a Virtual Environment:
 background information on, 166–167; benefits
 and results of, 171–172; description of, 168–171;
 Kool-Aid costumes used in, 169–170*fig*,
 171–172, 317; lessons learned from, 172–173;
 macrostructure map of, 171*fig*; making the case for,
 167–168

- Technology: development considerations related to, 220; diffusion of innovations and enterprise adoption of new, 240–253; disruptive, 20, 24–25; as revolutionizing learning, 39–40; VIEs (virtual immersive environments), 43*fig*–53*fig*. *See also* Information technology (IT)
- Technology adoption continuum: champions role in, 247–248, 252; connectors role in, 247, 252; conservatives role in, 247, 250–251; overview of, 247–248; pragmatists role in, 247, 250; skeptics role in, 250, 251; sponsors role in, 248, 253, 277, 286–287, 295, 303–304; technology enthusiasts role in, 247, 248, 249–250; visionaries role in, 247, 249–250
- Technology enthusiasts, 247, 248, 249–250
- Technology's Promise* (Halal), 54
- ThinkBalm, 264
- ThinkBalm Immersive Internet Business Value Study, Q2 2009, 264–271
- Third-party virtual world vendors: be specific about development requirements, 235; do your homework and research, 235; know what to expect from, 234–235; tie your request to a business need when working with, 234; top ten questions you should ask, 236; visit the virtual space you plan on purchasing, 235–236; working with a, 233–236
- “This Is Your Life (and How You Tell It)” (*New York Times*), 93
- 3-D Internet (IBM concept), 273
- 3D learning maturity model: concept behind the, 315; levels of, 315–322*fig*; types of learning at various levels of, 322–323*t*
- 3D learning maturity model levels: 1: mimicking existing classroom structures, 315–317; 2: expansion of existing learning structures, 317–319; 3: practicing the authentic task, 319–320*fig*; 4: working, 320–322
- 3DLE (3D learning experience): crafting the business or education case for, 253–272; definition of, 55; description of Jack's, 48–53*fig*; development of, 203–237; differences between 2DLE and, 62*t*–64; enterprise adoption of, 239–253; examples of Model Z lesson using, 49*fig*, 50*fig*, 52*fig*, 53*fig*; exploring future applications of, 311–342; moving from interactivity to engagement using, 54–56, 314; overcoming obstacles to, 263–271, 275–307; overview of, 44–45; predictions for the future of, 340*t*; Randy Hinrichs' top ten principles on, 85–88; revolutionaries on adoption, use, and future of, 273–307; training implications of differences between 2DLE and, 64–65. *See also* Case studies; Learning; 2DLE (2D learning experience); VIEs (virtual immersive environments)
- 3DLE archetypes: creation of the, 90–91; defining or customizing the, 91–116; the eleven different, 90; four macrostructure mapped to eleven, 81*fig*; implications for learning professionals, 117–118; matching types of knowledge, learning and, 117*t*; overview of, 80–81
- 3DLE architecture: achieving alignment with, 82–83*t*; archetypes and sensibilities of, 80–82*fig*; design principles of, 70–78*t*; implications for learning professionals, 84–88; key questions to ask at each level of, 84*t*; macrostructures of, 78–80
- 3DLE design points: allow opportunities to demonstrate learning, 215–216; build in incentives, 216; create specific objectives but don't tell the learner, 213–214; create the right context, 212–213; encourage collaboration, 214–215*fig*; provide minimal guidelines, 214
- 3DLE design principles: action oriented, 71*fig*, 75, 78*t*; collaboratively motivated, 71*fig*, 76–77, 78*t*; contextually situated, 71*fig*, 73–74, 77*t*; discovery driven, 71*fig*, 74–75, 77*t*; instructionally grounded, 71*fig*, 72, 77*t*; overview of the, 70–71*fig*; participant centered, 71*fig*, 73, 77*t*; Randy Hinrichs' top ten, 85–88; reflectively synthesized, 71*fig*, 72, 78*t*; synthesizing the, 77*t*–78
- 3DLE development: ADDIE model used in, 203–204, 216–223, 228–232; comparing 2DLE development and, 205–206; design points for virtual learning worlds, 211–216; “Designing Learning Spaces in VIE” (Pursel) on, 223–227; implications for learning professionals, 237; overview of issues involved in, 203–204; step-by-step designing and launching process of, 232–233; Sylvia's 3D design story on, 206–209; team members required for, 209–211; working with third-party virtual world vendor for, 233–236
- 3DLE development team: context developer/builder, 210–211; information technology representative, 211; instructional designer, 210; project manager, 210; representative of learner population, 211; scripter/programmer, 211; subject-matter expert, 210
- 3DLE macrostructures: agency, 79*fig*, 149; applying the principles to create, 78–79*fig*; connectedness, 79*fig*, 80; eleven archetypes mapped to four, 81*fig*; experience, 79*fig*, 80; exploration, 79, 79*fig*. *See also specific case studies*
- 3ds Max, 210
- “360 Synchronous Learning Report” (eLearning Guild), 45, 205
- Time* magazine, 314
- Timing learning problem, 31
- The Tipping Point* (Gladwell), 241, 242

- “Tokening,” 216
- “The Top Ten Questions You Should Ask Any VIE Vendor Before Hiring Him or Her” (Trondsen), 236
- Training: compounded marginalization of, 35–38; “master apprentice” model of, 26; on-the-job, 26; predictions on future VIE/3DLE applications to, 340*t*; seven scary problems with status quo, 29–35; teacher-student classroom-centric, 26; 2DLE and 3DLE differences and implications for, 64–65. *See also* Case studies; Learning professionals; Model Z power drill lesson
- Training problems: autonomous learner problem, 29–31; packaging problem, 31–32; performance problem, 32–33; routinization problem, 25, 26–27, 33; timing problem, 31; transfer problem, 33; value problem, 34–35
- Transfer learning problem, 33
- Trialability criteria, 246
- Tripp, Wada, 107*fig*
- Trondsen, Eilif, 236
- Twitter, 242, 258
- 2DLE (2D learning experience): comparing development process of 3DLE to, 205–206; description of Jane’s, 45–48; differences between 3DLE and, 62*t*–64; moving to 3DLE engagement from interactivity of, 54–56, 314; pre-established context used in, 212–213; training implications of differences between 3DLE and, 64–65; typical synchronous, 46*fig*. *See also* Synchronous environment; 3DLE (3D learning experience)
- 2020 Visions: *Transforming Education and Training Through Advanced Technolliges* (U.S. Department of Commerce), 331, 339
- ## U
- United States Holocaust Memorial Museum, 142–143. *See also* Kristallnacht Experience in Second Life
- University of Oregon, 274
- University of Southampton (UK), 91
- U.S. accident statistics, 152*fig*
- U.S. Department of Commerce, 331
- U.S. Department of Defense, 314
- ## V
- Value creation proposition: Brian Bauer on demonstrating 3DLE, 297–298; John Hengeveld on demonstrating 3DLE, 304; Karen Keeter on demonstrating 3DLE, 290–291; networked learning, 38–39; Steven Mahaley on demonstrating 3DLE, 279. *See also* Co-creation value proposition
- Value learning problem, 34–35
- VIE sensibilities: capability to co-create as, 60–61; death of distance as, 58–59; enrichment of experience as, 61–62; pervasiveness of practice as, 61; power of presence as, 59–60; sense of self as, 57–58; sense of space and scale as, 60
- VIEs design points: allow opportunities to demonstrate learning, 215–216; build in incentives, 216; create specific objectives but don’t tell the learner, 213–214; create the right context, 212–213; encourage collaboration, 214–215*fig*; provide minimal guidelines, 214
- VIEs development: ADDIE model used in, 203–204, 216–223, 228–232; design points for, 211–216; “Designing Learning Spaces in VIE” (Pursel) on, 223–227; implications for learning professionals, 237; issues related to, 203–204; leveraging the ADDIE model for, 216–232; step-by-step designing and launching process of, 232–233; Sylvia’s story on, 206–209; team members used in, 209–211; working with third-party virtual world vendor for, 233–236
- VIEs (virtual immersive environments): acting and navigating within, 92*fig*–94*fig*; avoiding the buggy-whip experience, 69–70; building incentives into design of, 216; comparing Jane’s 2DLE and Jack’s 3DLE in, 54–56; comparing VIEs, MMORPG and, 43*fig*–44; crafting the business or education case for, 253–272; data visualization in, 106; description of, 43*fig*–44; developing knowledge based on interaction with environment, 97–99; development of, 203–237; enterprise adoption of, 239–253; examples of environmental or situational conditions, 104*fig*–107*fig*; exploring future applications of, 311–342; group forums to create/share knowledge, 114–115*fig*; guided tours through, 99–102; interaction and manipulation of objects in, 102–104; Jack’s 3DLE Model Z lesson in, 48–53*fig*; overcoming obstacles to, 263–271, 275–307; predictions for the future of, 340*t*; revolutionaries on adoption, use, and future of, 273–307; role playing in, 95*fig*–97; seven sensibilities of, 56–62; small group work to create/share knowledge in, 113*fig*–114; social networking in, 19, 115–116*fig*; teaching first responders to react to unexpected situations, 107–111; team members required for development of, 209–211; Whyville Whyfox outbreaks in, 109. *See also* Co-creation value proposition; Environment; Second Life (SL); 3DLE (3D learning experience)
- Virtual Border Service Officer Training: background information on, 158–159; description of, 160–163*fig*, 257, 318–319; lessons learned from, 165; macrostructure map of, 163, 164*fig*; making the case for, 160; results of, 163–165
- Virtual corporate environment (VCE), 296

Virtual First-Responder Learning: background information on, 151–154; benefits of, 156; description of, 154–156; lessons learned from, 156–158; macrostructure map of, 156, 157*fig*

Virtual Global Inclusion Summit: background information on, 122–123; benefits of, 125–126; description of, 124*fig*–125*fig*; lessons learned from, 132–133; macrostructure map of, 126, 127*fig*; making the case for, 123–124

Virtual presence, 59–60

Virtual social worlds (VSWs): comparing VIEs and, 43*fig*–44; description of, 43; guided tours in, 100*fig*–102; hiring third-party vendors of, 233–236; Whyville Whypox outbreaks, 109. *See also* Environment; Second Life (SL)

Virtual World Design Centre (Loyalist College), 159, 160

Virtual Worlds Conference (VUC): AoT (Academy of Technology) participation in, 191–193; AoT sponsor of its own, 193–199; description of, 191–192, 257

“A Vision for Life Long Learning—Year 2020” (Hinrichs), 339

Visionaries, 247, 249–250

W

Wal-Mart, 26

Wales, Jimmy, 12

Wardynski, Casey, 108

Watt, James, 25

Web 1.0: focus on connecting “to” the web, 7, 8*fig*; history and uses of, 7–9

Web 2.0: focus on connecting through the web, 7, 8*fig*, 9; history and uses of, 9–12; integrated with knowledge sharing repositories, 17; integrated with knowledge sharing spaces, 18–19; “share” value proposition of, 10; social networking using, 4–7, 10

Web 3.0. *See* Immersive Internet

WebCrawler, 8

WebEx, 17, 212–213

Webvolution: autonomous learner problem solution through, 30; business unusual activities of the, 20–22; Jessica and her friends’ experience with, 6–7; social production encouraged by, 15*fig*; three waves of the, 7–12

Webvolution revolutionaries interview: Brian Bauer, 274, 291–299; essay format and questions used for, 274–275; introducing four revolutionaries, 273–274; John Hengeveld, 274, 299–304; Karen Keeter, 273, 280–291; rules from the revolutionaries, 304–307; Steve Mahaley, 273, 275–280

Webvolution rules: 1: change the name game, 304–305; 2: build a grass root community, 305; 3: begin with business issues, 305; 4: connect to core motivation, 305; 5: select the right pilots, 305–306; 6: pilot early and often, 306; 7: focus on the first hour, 306; 8: begin with the familiar, 306; 9: build an evidence base, 306–307; 10: prime the scale pump, 307

Weiswasser, Stephen, 10

“What’s in it for me?” question, 264

White, John, 23

Whyville Whypox outbreaks, 109

Wikipedia, 12, 14

Wikis, 18

Wired, 9

“Witnessing History: Kristallnacht the November 1938 Pogroms”: background information on, 142–144; benefits and results of, 148–150; description of, 145–148; lessons learned from, 150–151; macrostructure map of, 148*fig*

The World Is Flat (Friedman), 326

World of Warcraft (WoW), 12–13, 14, 216, 241

Y

Yahoo, 8

Yochai Benkler, 15

YouTube: origins and use of, 11; sharing media using, 11

Z

Zuckerberg, Mark, 5