

Index

A

Acacia Media Technologies, 103
Academic Co-Lab, 200–201
ACLU (American Civil Liberties Union), 106
Adkins, S. S., 207, 209
Advanced Distributed Learning (ADL) Shareable Content Object Reference Model (SCORM), 260, 277
Aero Innovation, 234
Affective computing, 237
Affective learning technology, 237
Age of Google, 3–4
Agenda: creating an, 134–135; giving technology major place on, 135–136; keeping items fresh and pertinent, 137–138
Agent-based learning technology, 221, 235–241
AICC (Aviation Industry CBT Committee), 34, 259
Ambient Insight, 229
Ambient learning, 226–229. *See also* Embedded training
American Library Association, 101
AnthroTronix, 238
Appian, 232
ARIADNE, 259
Article 1, Section 8 (U.S. Constitution), 99
Ashcroft, Eldred v., 104
AskMe, 223, 231
ASL (American Sign Language), 219, 224
Asymmetric collaboration technology, 221
At-work reading clubs, 12
Attitudes, 31
Autonomy, 232

B

“Ba” (abstract place), 222
Bandyopadhyay (Tagore), 109
Barton, D., 130, 159
BBC (British Broadcasting Company), 269
Benchmarking, 16
Berners-Lee, T., 232
Blended learning: described, 25; 4-Tier Blended Learning Framework for, 151–152*fig*; implications of, 152–153; infrastructure of, 26*fig*–28; on-demand business supported by, 150–153; operational excellence relationship to, 24–26; rationale for implementing, 24
Blended learning infrastructure: components of, 26*fig*; first and second building blocks of, 27–28*fig*
Blended learning model: components of, 28*fig*–29; knowledge categories/types as used in, 31–33; learning component of, 31; SOJT (structured on-the-job training) based on, 30
Blended learning solutions: launching/tracking, 29–30; successful types of, 33–34
Bloom, B., 215, 233
Blue pill/red pill rant: on copyright and patent law, 96–106; on idea of *Spielraum* (play in learning), 106–111; on lack of good content, 95–96. *See also* Learning rants
Bluetooth, 225
Book learning tools, 12–13
Boston Museum of Science, 199
Brown, J. S., 109, 131, 189
Brückner, G., 263
Bryson, B., 186
Buildings analogy (MeLearning), 256, 276

C

- CAI (computer-aided instruction), 72
- Career, 53
- Career tracks: identifying, 120; as learning infrastructure element, 116; ways to maximize, 121t
- Carnegie Learning, 218
- Carnegie Mellon University, 236
- CBT (computer-based training): early application of, 67–69; Michelin's experience with, 159–166; three mistakes made in, 69–79; wish list for educational use of, 82. *See also* Computer technology
- CBT mistakes: attraction to things instead of thoughts, 69–74; excluding learning professionals from creation, 74–77; over investment in industry pundits instead of solutions, 77–79
- CC (Creative Commons), 104–106
- Cerda, V., 20, 115
- Christensen, M., 18, 47
- ClassInHand, 198
- Coaching: importance of, 41–42; as success to training, 40
- Cognition engineering, 229–233
- “Cognitive Computer Tutors: Solving the Two-Sigma Problem” (Corbett), 217
- Cognitive tutor software, 214–218
- Collaboration: contextual, 222–223; e-learning, 134–145; trend toward group learning and, 156
- Common law employment, 51
- “Communities of practice,” 222
- Compensation/benefits/rewards: identifying methods of, 122; as learning infrastructure element, 117; ways of maximizing, 124t–125t
- Competencies: identifying, 120; as learning infrastructure element, 116; ways to maximize, 121t
- Complex explicit knowledge, 32
- Complex tacit knowledge, 33
- Computer Research Association, 258, 285
- Computer technology: adopting “creative destruction” approach to, 261–262; CBT (computer-based training), 67–82, 159–166; from efficiency to transformation using, 88–91; impact of, 86–87; Kurzweil's Law on, 210, 212, 265; leading to e-learning, 73, 87–88; mobile, 190–205; Moore's Law on, 209–210, 212; plotting progression of innovation in, 211–213. *See also* CBT (computer-based training); Software; Technology
- Concepts (blended learning model), 32
- Confucius, 85–86
- Content: ASL (American Sign Language)-based, 219; context relationship to, 10; rant on lack of good, 95–96; scaling e-learning, 15; technologies that transmit learning, 225
- Content developer, 61
- Content library, 61
- Content object taxonomy, 254–255fig, 256, 279
- Contextual collaboration, 222–223
- Copyright Office of the Library of Congress, 102
- Copyright/patent laws: “buying” music issue of, 97–99; CC (Creative Commons) project on, 104–106; on copyright extension, 100; DMCA (Digital Millennium Copyright Act), 101–103; as e-learning concern, 96–97; EFF (Electronic Frontier Foundation) work on, 106; on patent claims, 101; U.S. Constitution on, 99–100
- Corbett, A., 216, 217
- The Corporate e-Learning Advisory Council, 142–145
- The Corporate e-Learning Forum, 138–140
- The Corporate e-Learning Working Group, 140–141
- CosmoBot (AnthroTronix), 238
- COTS (common off-the-shelf) software: described, 181; Flashpoint, 181, 183–184; Rainbow Six, 181, 182–183; simulation training using, 184–185
- Creative Commons (CC), 104–106
- “Creative destructive” approach, 261–262

D

- Dangerfield, R., 84
- DARPA (U.S. Defense Advanced Research Projects Agency), 235, 236
- DataInHand, 198
- Deconstructing e-learning, 16
- Dede, C., 190, 203
- DeViney, N., 129, 147

- Dewey, T., 86
 Dismounted Guardian, 236
 Disney Copyright Law (Sonny Bono Act), 100, 103, 104
 DMCA (Digital Millennium Copyright Act), 101–103
 DOOM (computer game), 181
 Dublin Core, 259
 Dublin, L., 19, 83
 Duguid, P., 109
 Duke University m-learning, 198
 Dyslexic students, 215
- E**
- E-learning: “automation mentality” of, 90; beginning with LMS, 29; as blended learning solution, 25–26; business value deficiencies of, 148–149; completion vs. abandonment rates, 7–8; defining, 150–151; fourth stage of, 15; infancy of, 15; rant on lack of good content in, 95–96; as silver bullet, 87; technical evolution leading to, 73, 87–88; value proposition for McDonald’s use of, 167–168. *See also* Learning
- E-learning collaboration: phase 1: informal e-learning collaboration strategies, 134–138; phase 2: establishing more formal knowledge-sharing forum, 138–140; phase 3: reinstating separate problem-solving/knowledge-sharing meetings, 140–142; phase 4: establishing The Corporate e-Learning Advisory Council, 142–145. *See also* Saudi Aramco’s Ninth Corporate e-Learning Forum
- The Economist Intelligence Unit report (Nortal Networks), 191
 Education Arcade, 220
 Educational gaming: asymmetric collaboration technology used for, 221; high fidelity learning using, 218–221; learning using COTS (common off-the-shelf), 181–184; smart learning technology using, 218
 EFF (Electric Frontier Foundation), 106
 Eldred v. Ashcroft, 104
 Embedded training, 226–227. *See also* Ambient learning
 Emotion detection software, 237–238
 Employees: Aero Innovation products assessing skills of, 234; blended learning model improvement of skills, 32; per industry sector using wireless technology, 202fig–203; workforce development and, 117, 120, 122, 123t, 149–150. *See also* Managers; Organizations; Training
 Employment at will, 51
 Empowered learners, 154–155
 Engelbart, D., 265
 English Town, 224
 Entopia, 232
 Epiplex (Epiance), 229
 ERGO/GERO, 235
 ESA (Entertainment Software Association), 220, 237
 Evaluation “silly numbers,” 7
 Explicit knowledge, 52
 Extended enterprise learning, 157
- F**
- FastForward, 215
 Federman, M., 99
 Field Centrix, 226
 Finch, P., 83, 90
 Flashpoint (computer game), 181, 183–184
 FloBot (Ultimus), 229
 Food/learning relationship, 14
 4-Tier Blended Learning Framework, 151–152fig
 Friday, C. J., 129, 133
The Future of Ideas and Code and Other Laws of Cyberspace (Lessig), 104
 FX Mobile, 226
- G**
- Gadamer, H.-G., 106–107
 Galloway, A., 106
 Games-to-Teach Project (Microsoft iCampus), 220
 Gaming. *See* Educational gaming
 Gartner Group, 191
 GE Capital I-Sim, 219
 Gee, J. P., 107, 108
 Gelernter, D., 262
 General Motor m-learning, 195
 “Getting small” working models, 276–278
 Gibson, W., 262
 Globalization: comparing issues of globalization and, 169–171; defining, 170;

McDonald's approach to challenges of, 168–169
 Goggle Theory of Learning, 110
 Google, 3–4, 90
 Gracenote, 268–269
 “Grand Research Challenges in Computer Science and Engineering” (CRA), 258, 285
 Grassroots e-learning collaboration. *See* E-learning collaboration
 Great teachers, 11–12
 “Great-grandparent test,” 249

H

Hack the iPod community, 109
 Halstead, T., 48, 52
 Hamburger University, 168. *See also* McDonald's
 Handheld computers. *See* Wireless technology
 Haptic learning products, 219–220
 Harvard Medical School m-learning, 198–199
 Healthcare learning products, 219–220
 Hearing-impaired workers/students, 219
 Hendler, J., 235
 Hendon, M., 130, 167
 Hodgins, W., 207, 208, 243
 Holland, W., 193
 Honda, 225
 HRW (Holt, Rinehart and Winston), 215
 Human capital, 51
 Human comprehension technology, 230

I

IBM: 4-Tier Blended Learning Framework used by, 151–152*fig*; m-learning experience with, 195–196; on-demand business as defined by, 148; WebFountain technology of, 240
 Ideal Observer (ERGO/GERO), 235
 Identifiers, 279
 IEEE (Institute for Electrical and Electronic Engineers), 259, 277
 iGillottResearch Inc., 194
 Immersion Medical, 219
 iMOTO (Identifiers, Metadata, Objects, Taxonomies, and Ontologies), 279–280
 IMS (Instructional Management Systems), 259
 Industry pundits, 77–79
 Info Pak (RWD), 228

Informal e-learning collaboration: adjusting venue for increasing numbers, 138; changing name when broadening scope, 137; combined knowledge sharing, 134; creating agenda, 134–135; expanding session length/topics as needed, 136; including IT staff, 137; inviting management to sharing sessions, 138; keeping agenda fresh and pertinent, 137–138; opening participation to all, 136–137; technology as part of the agenda, 135–136
 Instant messaging, 78–79, 149, 150
 Institute for Defense Analysis, 216
 Instructional design: process of, 74–75; technological replacement of, 75–77
 Integrating systems, 15
 Intellidimension, 232
 Internet: establishing simple rules for, 260–261; interconnectiveness of innovations for, 265–266; standardization issues of, 258–260. *See also* Websites
 Invitation Wizard, 6
 Inviting learners, 5–6
 iPod, 109
 Iridescent, 240
 ISO (International Standards Organization), 259
 Israelite, L., 19, 67
 IST (Information Society Technology), 286
 ISTAG (Information Society Technology Program) [EC], 227
 ITS (Intelligent Tutoring Systems), 216, 217–218
 iTunes (music service), 97, 98

J

JCATS (Joint Conflict and Tactical Simulation), 176, 181, 185
 Jefferson, T., 96, 99–100
 Jenkins, 193
 Job roles: identifying “hot,” 120; as learning infrastructure element, 116; ways to maximize, 121*t*
 Jobs, 53

K

Kamen, D., 286, 287
 Karten, N., 7
 KBE (knowledge-based engineering), 220
 Kelly, K., 264

Kirkpatrick, 7, 85

Klopper, E., 193

Knowledge: attitudes, concepts, skills, processes of, 31–32; complex explicit, 32; complex tacit, 33; contextual collaboration and shared, 223; explicit, 32; informal collaboration through sharing of, 134

Knowledge Products, 228

Knowledge-sharing forum, 138–140

Kurzweil, R., 210, 246, 247

Kurzweil's Law (The Law of Accelerating Returns), 210, 212, 265

L

Language: ASL (American Sign Language), 219, 224; Commonwealth English vs. American English, 170; as globalization challenge, 169; mutually acceptable definitions of, 170–171; wireless technology adopted for learning, 224

Latitude360, 195

LAUSD (Los Angeles Unified School District), 215

"The Law of Accelerating Returns" (Kurzweil), 246

LeapFrog, 215

LeapFrog SchoolHouse Literacy Center Program, 215

Learners: empowered, 154–155; evolution of, 16; invitation process and, 5–6; mixed learning signals from managers to, 6; opportunities to apply new skills, 6–7; silly numbers measuring learning by, 7–8. *See also* Students

Learning: agent-based, 221, 235–241; ambient, 226–229; blended learning, 24–34, 150–153; collaborative, 134–145, 156; embedded, 155–156; extended enterprise, 157; "learning while doing," 153, 155; MeLearning concept of, 243–288; multiple domain, 233–235; real world knowledge about, 85–87; search for innovative approaches to, 147–148; *Spielraum* (play in learning) element of, 106–111; wireless technology and experience-based, 223–226. *See also* E-learning; M-learning; Training

Learning disabilities, 215, 217

Learning infrastructure: engineering and

managing, 118; job roles, career tracks, and competencies as part of, 116–117, 120, 121; organizational culture/attitudes as foundation of, 116, 118–119; providing balance in, 126–128; supporting processes of, 117–118, 122–123, 125t–126t; workforce development/rewards elements of, 117, 120, 122

Learning lip service, 2–3

Learning nature: age of Google and, 3–4; in age of technology, 4; as deeply personal process, 2; informal processes of, 1; as longitudinal and long process, 3; as natural and human, 1; social aspect of, 2; unconscious learning element of, 3

Learning professionals: excluded from technical applications to learning, 74–77; lack of respect accorded to, 83–85; operational excellence initiative role by, 34–35. *See also* Teachers

Learning rant: on change to apply new skills, 5–7; on content/context combination, 10; definition of a good, 93–94; including quoted authority in, 94–95; invite thy learners, 5–6; learning vs. training, 5; mixed learning signals from managers, 6; on rapid learning development, 8–10; silly numbers to measure learning, 7–8; on speed of learning, 10–11; on university instructional programs, 8. *See also* Blue pill/red pill rant

Learning raves: on books as learning tools, 12–13; on food as part of learning, 14; on great teachers, 11–12; on learning objects, quick videos, talent search, 13; on local localization, 13–14; on symbols or totems, 14; on usability testing, 14–15

Learning reflections: on benchmarking, 16; on deconstruction of course, 16; on evolution of learners, 16; on fourth stage of e-learning, 15; on infancy of e-learning, 15

Learning speed, 10–11

Learning technological mistakes: attraction to things instead of thoughts, 69–74; in CBT (computer-based training), 69–79; excluding learning professionals from creation of products, 74–77; over investment in industry pundits instead of solutions, 77–79

- Learning technology: asymmetric collaboration, 221; early application to education, 67–69; learning in the age of, 4; pinpointing patterns of, 213fig–241; plotting progression of innovation in, 211–213; predicting advances in, 209–210; three mistakes made in educational use of, 69–79; three phases of introducing new, 88–91; wish list for educational use of, 82; working on how to apply to learning, 79–81. *See also* Computer technology
- Learning technology patterns: 1: smart learning technology, 214–218; 2: high fidelity learning: simulation and gaming, 218–221; 3: communities of contextual collaboration, 222–223; 4: wireless experience-based learning, 223–226; 5: ambient learning: surrounded by smart objects, 226–229; 6: cognition engineering, 229–233; 7: multiple domain learning, 233–235; 8: agent-based learning, 221, 235–241; diagram of, 213fig; overview of, 213–214
- Learning technology. *See* Technology
- Learning while doing, 153, 155
- LEGO blocks analogy, 254–255fig, 256, 276
- Leonardo da Vinci, 260
- Lessig, L., 103–104
- Lind, M., 48, 52
- LMS (learning management system): e-learning projects beginning with, 29; including books in, 12; as training systems, 5; transition process of changing, 61; used as invitation, “engine,” 6; wireless support by, 193
- Localization: benefits and measurable results of, 171–172; comparing issues of globalization and, 169–171; defining, 170; local, 13–14
- Lockheed, 226, 236
- Lowenstein, D., 237
- LTSC (Learning Technology Standards Committee), 277
- Luther, M., 93
- M**
- M-learning: Academic Co-Lab, 200–201; Boston Museum of Science/MIT, 199–200; defining, 192–193; Duke University experience with, 198; examples of, 194; General Motor’s experience with, 195; Harvard Medical School, 198–199; IBM’s experience with, 195–196; MOBIlearn Project, 196–197; OmniLearn Learner Support System, 196; opportunities of, 201; pan-European m-Learning project, 197–198; 3Com University, 194–195; unique educational opportunities of, 193–194; University of California, San Diego, 199; Wake Forest University, 198. *See also* Learning; Wireless technology; Wireless technology
- McDonald Bradley, 232
- McDonald’s: e-learning facilitation of training at, 173; global challenges faced by, 168–169; globalization vs. localization issues for, 169–171; localization benefits for, 171–172; role of governance at, 173; training as part of culture at, 168; value proposition for e-learning at, 167–168. *See also* Hamburger University
- McDonald’s Curricula Collaboration Team, 173
- McDonald’s Global Training Board, 173
- Madison, J., 99
- Managers: mixed learning signals from, 6; training support/sponsorship by, 43–45. *See also* Employees; Organizations
- MASIE Center Member CONSORTIUM, 164
- Masie, E., 97, 107, 286, 287
- The Matrix* (film), 94, 111
- Maxis, 236
- Media Lab (MIT), 237
- Media selection process, 74–75
- Medical Learning Company, 220
- Medline database, 240
- MeLearning concept: barriers to fulfilling vision of, 249–250; being a believer in the impossible, 244–247, 287–288; benefits of, 253; building analogy of, 256, 276; content object taxonomy/LEGO blocks analogy of, 254–255fig, 256, 276, 279; described, 244–245; enablers of vision of, 247–249; imagining future (2050) and possibility of, 250–251; using innovative approaches to reach, 251; learning benefits of, 251–252; scaling up and down, 257–258; transforming vision into reality, 257; understanding symptoms/causes of learning

- problems, 252–253; vision of, 243–244, 245–247
- MeLearning concept strategies: for future success, 258–262; for readiness response to “learning movement,” 282–287; for scaling down, 271–282; for scaling up, 262–271
- MeLearning future success strategies: adopt creative/constructive destruction, 261–262; standardize standards, 258–260; starting with simple rules, 260–261
- MeLearning learning moment strategies: all teachers/all learners concept, 283–284; augmenting our brainpower, 284–285; examining, 282–283; organizations concerned with, 285–286
- MeLearning scaling down strategies: using common components to create unique solutions, 275–276; examining scaling down challenge, 271–272; to find versus searching for information, 278; from mass production to mass customization, 272–273; getting big by getting small, 273–275; “getting small” working models, 276–278; using objective and subjective metadata, 278–279
- MeLearning scaling up strategies: establishing higher standards, 263–265; examining scaling up challenge, 262–263; iMOTO, 279–280; interconnectiveness of innovations, 265–266; “mass contribution” from individuals, metadata, professionals, 266–269; spiraling improvement using, 270–271
- Mentoring: importance of, 41–42; smart learning technology substitute for, 215–216; as successful training, 39–41
- Metadata, 267–269, 278–279. *See also* Taxonomies
- Metcalf, D., 17, 21
- Michelin: don’t and do lessons learned by, 165–166; e-learning initiative at, 159; EPSS (electronic performance support systems) at, 163–164; first foray into CBT at, 159–160; Human Resource Management System at, 164; implementation of major CBT projects at, 163–164; second attempt at CBT by, 161–162; TEL (Technology Enabled Training) group at, 162–163, 164
- Microsoft iCampus, 220
- Microvision, 225, 226
- Miller, D., 94
- Mindfabric, 238
- Mitre, 231
- MIT’s Media Lab, 237
- MIT’s Open Courseware (OCW) project, 270
- MIT’s Teacher Education Lab, 199
- Mobile computer technology. *See* Wireless technology
- Mobile-Mind, 224
- MOBilearn Project, 196–197
- Monsanto’s Law, 210
- Moore, G., 209
- Moore’s Law, 209–210, 212
- MPAA (Motion Picture Association of America), 103
- Multi-dimensional learning domains, 233–235
- Multi-sensory technologies, 233–235
- Multiple domain learning, 233–235
- ## N
- Neeninger, P. L., 130, 175
- NeoSpeech, 220
- Network (film), 83
- 95 Theses (Luther), 93–94
- No Child Left Behind Act (2002), 217
- “No Respect” (Dangerfield comedy album), 84
- Nomad Expert Technician System, 225–226
- Nonaka Ikujiro, 222
- Nortel Networks, 191
- ## O
- Objects (content object taxonomy), 279
- OCW (Open Courseware) project [MIT], 270
- OE (operational excellence): creating blended learning process/infrastructure supporting, 26fig–29, 28fig; described, 22–24; elements of, 23fig; getting involved in initiatives for, 34–35; how blended learning factors into, 24–26; launching/tracking blended learning solutions for, 29–30; learning challenges/applying knowledge for, 30–33; overarching strategy for reaching, 22fig; rationale for blended learning and, 24; successful blended learning solutions for, 33–34
- Oehlert, M., 19, 93
- OmniLearn Learner Support System, 196

On-demand business: blended learning for, 150–153; defining, 148; evolution of learning approaches to support, 148–149; future of learning to support, 153–157; preparing the next generation workforce for, 149–150

On-demand environment: collaborative/group learning as part of, 156; embedded learning as part of, 155–156; empowered learners as part of, 154–155; extended enterprise learning as part of, 157

OnDemand (Knowledge Products), 228

Ontologies, 280

Organizational culture: assessing your, 118–119t; as foundation to learning infrastructure, 116

Organizations: learning lip service by, 2–3; on-demand business conducted by, 148–157; silly numbers on learning used by, 7–8; social contract and expectations of, 51–52; wireless technology used per industry sector, 202fig–203. *See also* Employees; Managers

P

PAL (Perceptive Assistant that Learns), 236

Partners: defining, 57; pain of changing, 60–62; partnership pledge by sourcing, 64–65; partnership pledge by vendor, 64. *See also* Vendors

Partnership pledge, 63–65

Partnerships: vendor action to build, 62–63; what it is not, 58–60; what to expect out of, 57–58; what to provide to, 58

Pasteur, L., 179

Patent laws. *See* Copyright/patent laws

PDAs (personal digital assistants), 191, 192

People architecture. *See* Learning infrastructure

PeopleSoft, 228

Perez, C., 210

Personalized Adaptive Learning, 286

Phyllis (Verity NativeMinds avatar), 237

Play. *See* Spielraum (play in learning)

Procedures (blended learning model), 32

Profession, 53

Professional mind-set, 54–55

ProLearn Project (EC), 285–286

PVRs (personal video recorder) technology, 281

Q

Quantum Intelligent Tutors, 215

Quantum Simulations, 215

Quinn, C. N., 193

R

The Radical Center (Halstead and Lind), 48, 52

Rainbow Six (computer game), 181, 182–183

Rants. *See* Learning rants

Rapid learning development, 8–10

Raves. *See* Learning raves

Re-engineering movement, 49–50

Read It To Me (conversion program), 109

Read-On!, 216

Reeves, K., 94

Reflections. *See* Learning reflections

Rehak, D., 266

RFID (radio frequency identification), 192, 223, 225, 228

RFP (request for proposal), 60, 61–62

RIAA (Recording Industry Association of America), 103

The right of first sale, 97

ROI (return in investment), 25, 84

ROK (return on knowledge), 25

RWD Technologies, 195, 228

S

SA (situational awareness), 234

SAP, 228

Saudi Aramco: e-learning as key corporate strategy at, 145; establishing Corporate e-Learning Advisory Council, 142–145; establishing formal knowledge-sharing forum, 138–140; informal e-learning collaboration at, 134–138; reinstating separate problem-solving/knowledge-sharing meetings, 140–141

Saudi Aramco's Ninth Corporate e-Learning Forum, 133–134. *See also* E-learning collaboration

SBC Communications, 103

Scale content, 15

Scantron, 224

Schlafly, P., 100

Scientific American, 204

Scientific Learning, 215

SCORM (Shareable Content Object Reference Model), 260, 277

Secret Service: analysis following simula-

- tion practice, 179–180; COTS (common off-the-shelf) software used by, 181, 182–185; gaming software used by, 180–182; JCATS (Joint Conflict and Tactical Simulation), 176, 181, 185; practice through simulation by, 178–179; SIMLAB (Security Incident Modeling Lab), 176, 180, 181, 183, 184; simulation lessons learned by, 185–186; training via simulation at the, 175–178. *See also* U.S. military
- Semantic Web, 232, 233, 266
- Semaview, 232, 233
- Senge, P., 156
- September 11, 2001, 175
- Shadowing, 40
- SHAI (Stottler Henke Associations), 216
- A Short History of Nearly Everything* (Bryson), 186
- Siebel, 228
- SIMLAB (Security Incident Modeling Lab) [Secret Service], 176, 180, 181, 183, 184
- Sims games, 236
- Simulation: asymmetric collaboration technology used for, 221; COTS (common off-the-shelf) software used for, 181, 182–185; gaming software used in, 180–182; high fidelity learning using, 218–221; power of practice through, 178–179; smart learning technology using, 218; training via, 175–178, 185–186; value of analysis of, 179–180
- SimuLearn's Virtual Leader, 221
- Skills: Aero Innovation products assessing, 234; blended learning model improvement of, 32
- Smart learning technology, 214–218
- Smart objects, 227–229
- SNA (Social Networking Analysis), 233
- Social contract: adoption of professional mind-set and, 54–55; breakdown of the, 48–50; corporate expectations and, 51–52; defining, 47–48; individual expectations and, 52–54; the old and new, 50t
- Society for Organizational Learning, 156
- Software: agent-based learning technology, 221, 235–241; ambient learning embedded in, 228; emotion detection, 237–238; LeapFrog's "smart toys," 214–215; learning using COTS (common off-the-shelf), 181–184; plotting progression of innovation in, 211–213; smart learning/cognitive tutor, 214–218. *See also* Computer technology
- SOJT (structured on-the-job training), 30
- Sonalysts, 216
- Sonny Bono Copyright Term Extension Act (1998), 100, 103, 104
- SpeechMiner (Utopy), 237, 238
- Speed of learning, 10–11
- Spielraum* (play in learning), 106–111
- Squire, K., 205
- Standarization issues, 258–260
- Stanford Center for Internet and Society, 103
- Star Trees, 232
- Stolen Knowledge* (Brown and Duguid), 109–110
- Strackbein, Mr., 70–71
- Stretch assignments, 42–43
- Students: educational gaming by, 181–184, 218, 218–221; smart learning/cognitive tutor software for, 214–218; software for medical industry, 219–220. *See also* Learners
- Students with disabilities: ASL-based products for hearing-impaired, 219; smart technology used for, 215, 217
- Supporting processes: identifying, 122–123, 126; as learning infrastructure element, 117–118; ways to maximize, 125t–126t
- Sutker, S., 18, 57
- Symbols/totems, 14
- Syn-Patient, 220
- ## T
- Tablet PCs, 211–212, 224, 228
- Tacit Knowledge, 223, 231
- Tagore, R., 109
- Talent searches, 13
- Talkman (Vocollect), 228
- Taxonomies: content object, 254–255fig, 256, 279; described, 279–280; ontologies within, 280. *See also* Metadata
- Teachers: excluded from application design, 74–77; importance of great, 11–12. *See also* Learning professionals
- Teaching cultures, 43
- TechLearn 2003 conference, 286
- TechLearn, 97
- "Techno-Economic Paradigms," 210
- Technology Revolutions and Financial Capital:*

The Dynamics of Bubbles and Golden Ages (Perez), 210
 Technology. *See* Learning technology
 “Tele-collaboration,” 223
 Test.com, 103
 Texas Instruments, 224
 The Third American Revolution, 48
 Thomas, B., 18, 37
 3Com University, 194–195
 3D Buzz, 108
 TiVo effect, 280–281
 Totems/symbols, 14
 Training: benefits of, 37–38; embedded, 226–227; executive support/sponsorship of, 43–45; learning vs., 5; McDonald’s culture of, 168; mentoring as “secret” of successful, 39–41; stretch assignments as part of, 42–43; taking the next step after, 39; via simulation, 175–178, 185–186. *See also* Employees; Learning
 “12 Rules for the New Economy” (Kelly), 264–265
 Two Sigma variation, 215, 216–217

U

UCSD m-learning, 199
 Ultimus, 229
 UNESCO, 213
 University instructional programs, 8
Unreal Tournament (game), 108
 Unreal University conference, 108
 UPE (universal primary education), 213
 U.S. Constitution, 99
 U.S. military, 226–227. *See also* Secret Service
 U.S. Register of Copyrights, 102
 Usability testing, 14–15
 Utopy, 237

V

Vandam, A., 285
 Vcom3d, 219
 Vendors: actions for building partnerships, 62–63; defining, 57; taking the partnership pledge, 64; understanding what a partnership is not, 58–60; what to expect out of partnerships, 57–58; what to provide to partnerships, 58. *See also* Partners
 Verity, 237
 Videos rave, 13
 VirTra Systems, 235

Virtual Leader (SimuLearn), 221
 Visualization, 231
 VizServer (Insight), 232
 VoiceLogistics (Voxware), 228
 VPN (virtual private network), 194

W

W3C (World Wide Web Consortium), 204
 Wake Forest University m-learning, 198
 Wal-Mart, 97–98
 Web-based learning evolution, 73, 76
 WebFountain technology (IBM), 240
 Websites: ClassInHand, 198; Computer Research Association, 285; Data-InHand, 198; Duke University e-learning project, 198; Engelbart’s “the unfinished revolution” talk, 265; Kurzweil’s Law article, 210; m-learning, 197; MIT’s Teacher Education Lab, 199; MOBILEarn Project, 196; Pro-Learn Project, 286. *See also* Internet
 Weiser, M., 204
What Video Games Have to Teach Us About Learning and Literacy (Gee), 107
 Wheeler, C., 82
 Wi-Fi (wireless fidelity), 225
 WILL Interactive, 221
 Wired magazine, 264
 Wireless technology: experience-based learning using, 223–226; industry predictions regarding, 191; potential for handheld, 190–191; types of devices, 191–192; unique educational opportunities using, 193–194; workers per industry sector using, 202fig–203. *See also* M-learning
 Workforce development: identifying needs regarding, 120, 122; as learning infrastructure, 117; of the next generation workforce, 149–150; ways to maximize, 123t
 Workspace, 222
 Wright Brothers, 260

Y

Your Turn: The Global CEO Study 2004 (IBM), 148

Z

ZigBee, 225
 Zoesis, 236