

Index

A

- Abbot Bundy, 344
- Absolut, 46
- Abstract concepts, 61. *See also* Concepts
- Accountability: boomer bosses and, 247; in teams, 242
- Accounting software, 86
- Acid-base sorting game, 63, 64
- Acronyms, games for learning, 49, 53–54, 58–60
- Acrophobia*, 15, 58–60
- ActiveX controls, 304
- Ad hoc flash teams, 128–129
- Adaptive learning systems, 212–213, 215
- ADDIE model, 302
- Adelphia Communications, 220
- Adlai-Gail, M., 138
- Adoption of innovative technology: continuum of, 284–289; factors in, 278–283; and knowledge transfer processes, 329–331; methods to promote, 289–308
- Advanced Technological Education Resource Centers of Excellence, 178
- Adventure, 32
- Advergaming, 293
- Age: of gamers, 14, 16, 17, 18, 20, 21; of retirement, 5, 7; and time spent playing video games, 23
- Age of Empires*, 15, 78, 252
- Age of Empires II*, 348–350
- Aging information, software training and, 94
- Aircraft transponder test simulation, 91–93
- Airport kiosks, 192–193, 216
- Aldrich, C., 299, 352
- Alignment, of corporate and knowledge transfer goals, 317–319, 335–336
- Alone in the Dark*, 29
- Alphabetization game, 62, 63
- Alter egos, 343–345
- American Beverage Institute, 9
- American Dialect Society, 165
- American Express, 345

- America's Army*, 16, 21, 264–267, 280, 299–300, 354
- Analytic ability, of gamers, 33
- Ancel, M., 28
- Anderson, C., 26
- Animated trainers, 204–207
- Annual Review of Psychology*, 126
- Anshe Chung, 343
- Anthony, S. B., 154
- Anthropomorphics, 204–207
- AOL, 170. *See also* Instant messaging
- Apollo 13* computers, 124–125
- Apple, 131, 200
- Application games, 67–68
- Apprenticeship, 76, 88, 211, 212
- Arby's, 8
- Arcade games: of gamers 1.0, 17; of gamers 2.0, 18, 19
- Arizona State University, 228
- Armstrong, H., 171
- Arthur Andersen, 9
- Asia: text messaging popularity in, 182; video game popularity in, 29
- Assembly competitions, 261. *See also* Tournaments
- Assessment systems, 212–214, 215
- Assets, virtual, 341–345
- Association of American Publishers, 227
- Atari, 29, 32, 144
- Atari 2600 VCS, 13, 15, 18
- ATC-600A test box simulation, 91–93, 111
- Attention deficit hyperactivity disorder, 225–226
- Attractiveness criteria, for innovative technology, 278–283
- Audio: advantages of, 131; on-demand, 131–133. *See also* MP3 devices
- Audit, knowledge, 319–324, 336
- Authority: boomer attitudes toward, 219–220, 221, 222–223, 246–248; gamers' disrespect for, 40, 219–223, 246–248; gamers' self-, 222. *See also* Boss; Leadership; Management; Teachers
- Automaticity, 87, 88
- Automation, 191–217; advantages of, over education, 193–194, 196; elements required for, 216–217; examples of, 196–213; trend toward, 191–193, 194–196; workplace implications of, 216–217
- Automobile manufacturing industry, retirement trends in, 6, 7
- Automobiles, with video games, 346
- Avatars: conversational interface with, 207–211; realism of, 206–207; as virtual trainers, 204–207. *See also* Virtual mentors
- Aviation industry, retirement trends in, 6
- Awareness illusion, in human-computer interaction, 210–211
- AXIOM Professional Health Learning, 134–135
- AXIS Healthcare Communications, 134–135
- ## B
- Baby boomers. *See* Boomers
- Banking industry. *See* Retail banking
- Bannister, R., 330
- Batelle, J., 188
- Batman Beyond*, 129
- Battle.net, 20
- Battlezone*, 16
- Bavelier, D., 25–26
- Baylor, A. L., 205
- Beck, J., 29–30, 36
- Bejeweled*, 46
- Benchmarking, 279–280
- Berners-Lee, T., 13
- Biofeedback game, 204
- BlackBerry devices, 116
- Blair, L., 239
- Blizzard Entertainment, 20
- Block II Apollo Guidance Computer, 124–125
- Blogs: examples of, 170–171; IM conversations in, 170; organizational uses of, 172; popularity of, 170, 222; providing rules for using, 328; for recruitment, 258, 260; tracking, 183
- Bloomsburg University, 306, 322
- Blown film extruder simulation, 89–91
- Bluetooth technology, 118, 240
- Board games: defined, 73; for teaching rules knowledge, 68–70, 71; uses and examples of, 73
- Boardroom, 149–150
- Books, gamers and, 41, 227
- Boomers: activities for, to understand gamers, 352–354; adoption continuum of, 284–289; authority and, 219–220, 221, 222–223, 246–248; background of, 4–5; as bosses and teachers, 223–225, 231–236, 243–249; chasm between gamers and, 3–4, 38–42, 350–355, 359–360; cheat codes and, 144, 145, 158,

- 159–160; convincing, to adopt games and gadgets in workplace, 275–308; as expert problem solvers, 83–84; interviewing, 120–122, 141, 186; knowledge transfer system for gamers and, 311–339; learning about, 354–356, 359–360; learning styles of, 165, 188; negative attitudes of, toward games in workplace, 40, 73, 275–277, 278, 286–288; procedural knowledge and, 86, 87; retirement trends of, 2–7, 41, 254, 321–323; reverse mentoring for, 270, 282; television and, 14; traits of, 7–10, 223–225, 244–246; workplace ethos of, 10–12
- Booz Allen Hamilton, 49, 81
- Bop the Fox game, 62–64, 73, 301–302
- Boredom, in school, 225–226
- Boss: boomers as the, 223–225, 231–236, 243–249; boomers' view of, 219–220, 246–248; challenges of being the, 223–225, 243–248; gamers as the, 222, 244; gamers' relationship with, 223–225; gamers' view of, 219–221, 223, 246–248; strategy guide *versus*, 231–236, 243; tips for being the, 244–248; in video games, 219–220. *See also* Authority; Leadership
- Bots, 342
- Bottom-line results, of knowledge transfer process, 333
- Boundaries: blurred, between games and reality, 341–350; defining, in workplace, 231–232, 241–242
- Bozarth, J., 305
- Brain Age*, 347
- Brain development, 26
- Branching story technique, 97, 304–305
- Brand loyalty, 8
- BreakAway Games Ltd., 299
- Breakout*, 18
- Broadband wireless networks, 117–119
- Bruce Wayne, 129
- Business case, for games and gadgets, 277, 289–301
- Business needs, 290
- Business plan contests, 263
- Busywork, 235
- Butterfield, S., 124
- Byers, C., 127
- C**
- Calculations, automation for, 216
- California State University, Fresno, 263
- Calypso, 341–342
- Cameras. *See* Digital cameras
- Campus recruitment, 258
- Canon, 293
- Cantor, K., 89
- Capstone simulation, 107
- Card, O. S., 266
- Care Alerts, 140
- Career and career advancement: boomer *versus* gamer perceptions of, 40, 223, 224, 247–248; boomers and, 10–11, 12; gamers' expectations in, 253, 254–256
- Carmack, J., 252
- Carro, C., 350
- Cartoonnetwork.com, 21
- Case scenario development, 94
- Cash registers, automated, 191–192, 194, 293
- Casual games: characteristics of, 46; for concept knowledge instruction, 61–66, 73; for declarative knowledge instruction, 52–60, 73; introducing, in classroom environment, 282, 283; for rules knowledge instruction, 67–72, 73; types of, with appropriate content, 73; workplace implications of, 72–74. *See also* Video games
- Cataloguing: automated, 119–124; for information retrieval, 186–187
- Celebrity endorsement, 329–330
- Cell phones: increased power of, 125, 126; proliferation of, 116, 278; smart equipment and, 140; text messaging with, 181–182
- Center for Automotive Research, 6
- Center for Creative Leadership, 297–298
- Center for Research of Innovative Technologies for Learning, 205
- Centers for Disease Control and Prevention, 292
- Cereal box tops, 116
- Champions, internal, 330
- Chatrooms, in *Acrophobia* game, 58–60
- Cheat codes: boomers' attitudes toward, 144, 145, 158, 159–160; defined, 144; difficulties and limits of, 145, 159–161; examples of, 146–148; gamers and, 145, 146–149, 158–161; as help codes, 158–159; online communities and, 150–152, 233–234; origins of, 144–145; popularity of, 148–149
- Cheat sheets, corporate, 152–153, 324
- Cheatcc.com, 150
- Cheatcodes.com, 150

- Cheating: bending the rules and, 153–161; boomers and, 144, 145, 158, 159–161; gamers and, 145, 146–149, 150–152, 153–161; in organizations, 149–150, 151–153, 159–161; workplace implications of, 159–161
- Chemical plant simulation, 96–98
- Chemistry knowledge, 47, 67
- Chew Magna Primary School, 293
- Chief executive officer (CEO), technology-savvy, 276–277
- Chief knowledge officer (CKO), 319, 333–334
- Children's PC chart, 24
- China: retirement in, 7; space race with, 310; video game popularity in, 29
- Chip's Challenge*, 31–32
- Choices, automation for, 216
- Chunks and chunking. *See* Information chunks
- Cisco Systems, 141; game development costs at, 300; games-based learning research of, 293; Internet Learning Solutions Group of, 167; learning chunks at, 184–185
- Classification knowledge and games, 60–66. *See also* Concept knowledge
- Classroom learning: effectiveness of games and simulations *versus*, 291–299; game learning *versus*, 25; inadequacy of, 39, 225–227; introducing games in, 282, 283; memorization in, 51; one-size-fits-all paradigm of, 211–212; in software applications, 93–94. *See also* Schools; Training
- CNN, 354
- Coaching: for boomer bosses, 244–248; communication tools for, 243
- Coca-Cola, 8, 293
- Cognitive processing: of gamers 1.0, 16, 17; of gamers 2.0, 16, 18, 19; of gamers 3.0, 16, 20, 21; of gamers 4.0, 16, 23; impact of simulation on, 298; levels of, 14
- Cold Stone Creamery, 68
- ColecoVision, 13, 15
- Collaboration: among cheaters, 150–152, 342–343; communities of practice and, 178, 233–234; competitiveness and, 34–35; of gamers 1.0, 17; of gamers 2.0, 17, 19; of gamers 3.0, 17, 20, 21; of gamers 4.0, 17; promoting, for knowledge sharing, 315–316; telecommuting and, 267–268; in virtual worlds, 344–345
- Collaboration software, for flash teams, 128–129
- Colleges: interns from, 305–306; online education in, 227–228. *See also* Schools
- Color-Ware, 303
- Combat*, 18
- Communication channels: boomer *versus* gamer perceptions of, 40; for knowledge sharing, 314
- Communication knowledge, 83
- Communication Quarterly*, 126
- Communities of practice, 178, 233–234, 315
- Community colleges, interns from, 305–306. *See also* Schools
- Compaq, Personal Jukebox-100 (PJB-100), 200
- Compatibility factor, in technology adoption, 280–281
- Compensation, 270–272. *See also* Rewards
- Competition: in declarative knowledge games, 55, 56; as gamer trait, 34–35; knowledge loss and, 309–310; in racing games, 64–66; tournaments and, 251–252, 252, 261–264
- Complexity factor, in technology adoption, 281–282
- Concepts and concept knowledge: aspects of, 61–62; defined, 47, 48, 60; examples of, 48, 60; game designs for, 62–66, 73; multiple-choice questions for, 62, 72; strategies for teaching, 60–61; types of, 61
- Concrete concepts, 61
- Confidence: and attitudes toward authority, 222, 223, 244, 245; as gamer trait, 36–37, 222, 223, 244, 245; in knowledge transfer processes, 330–331; of students *versus* teachers, 226
- Connections, maintaining, in teams, 243
- Connectors, 284, 288–289, 330
- Conservatives, technology, 284, 286–287, 288
- Console games: defined, 13; evolution of, 15, 20; prevalence of, 23; virtual teamwork in, 240. *See also* Video games; *individual console headings*
- Contra*, 146–148
- Conversation, human-computer, 207–211
- Cooler, The, 170
- Coopers & Lybrand, 9
- Cope, J.-F., 28
- Corn maze, 31–32
- Corporate cheat sheets, 152–153, 324
- Corporate image, for games and gadgets, 301–303
- Corporate ladders, 10, 12, 223, 224, 302
- Cost effectiveness: low-cost development and, 304–307; proving, 299–300
- Costs: analysis of, in business case, 299–300; of casual game development, 46; low-cost development approaches and, 304–307; of major video game

- development, 45–46; of simulations *versus* games, 81
 - Counterstrike*, 252
 - Creativity, of gamers 4.0, 23
 - Credit card industry, 11
 - Cronkite, W., 352
 - Crossing the Chasm* (Moore), 278
 - Cultural differences, simulation on, 108, 109
 - Culture, organizational, 277
 - Cunningham, W., 173
 - Current state description, 291
 - Customer credit, rules knowledge for, 48
 - Customer experience, 348
 - Customer interface automation, 192–193
 - Customer relationship management (CRM) software, 189, 213
 - Customization: of avatars/virtual trainers, 205, 206–207; boomers and, 8; of instruction, 211–213, 215
 - Cyberbudget*, 28
 - Cybercelebrities, 252
 - Cybercommuting, 267–268
- D**
- DaimlerChrysler, 172, 347
 - Dance Dance Revolution, 204, 292
 - Data cataloguing, 119–124, 186–187
 - Data corruption, 93, 94
 - Data sensitivity, 94
 - Declarative knowledge: aspects of, 49–52; categorization of, 49–50; defined, 47, 48, 49; examples of, 48, 49; game designs for, 52–60, 73; multiple-choice questions for, 72
 - Deduction technique, 60
 - Definitions, games for learning, 55–56, 57. *See also* Declarative knowledge
 - Del.icio.us, 183
 - Deloitte and Touche, 164
 - DeLong, D., 3
 - Delta Air Lines, 171
 - Demographic analysis, 291, 321–323. *See also* Retirement
 - Deployment, of knowledge transfer processes, 329–331, 337
 - Design. *See* Game design; Knowledge transfer; Simulation design
 - Development costs. *See* Costs; Video game development costs
 - Development process, in knowledge requirements planning (KRP) model, 327–328, 336–337
 - Diablo*, 20
 - Diagnosis, in knowledge requirements planning, 319–324, 336
 - “Diary of a Flight Attendant” blog, 171
 - Diffusion of innovations, 278–283
 - Diffusion of Innovations* (Rogers), 278
 - Digital asset management (DAM) software, 123
 - Digital audio players (DAMs): increasing power of, 125–126; interfaces of, 200. *See also* iPods; MP3 devices
 - Digital cameras: increasing power of, 126; proliferation of, 116
 - Digital natives *versus* immigrants, 37, 40
 - Digital readout system, 198
 - Discovery: in gamer 2.0 games, 18–19; in pharmaceutical sales simulation, 99–100; in social simulators, 101–102
 - Disguising, of games and gadgets, 277, 301–303
 - Disney, 8, 354
 - Distractions, multitasking and, 33–34
 - Divorce rates, 8
 - Donkey Kong*, 19
 - Dooce.com, 171
 - Doocing, 171
 - Doom*, 21, 252
 - DOS for Dummies*, 153
 - Dot-com phenomenon, 158–159
 - 007 NightFire*, 75–76, 92
 - Douglas, N., 24
 - Dr. Pepper/7 UP, 172
 - Drag-and-drop games: for concept knowledge instruction, 66; for declarative knowledge instruction, 56–57, 73
 - Dragon’s Lair*, 18
 - Drexel University, LeBow College of Business, 132–133
 - Drill-and-practice technique, 51, 55
 - Drive for success, 8, 10–11
 - Driving simulators, 84, 346–347
 - Dryer’s Grand Ice Cream, 8
 - Duck shoot game, 58, 59
 - Dunlap, D., 104
 - Dunning, J., 295–297

E

- EA. *See* Electronic Arts (EA)
- Easter eggs, 32, 35
- Economics, of video game industry, 28–29, 346
- Economies, virtual, 341–345, 346
- Educational model, traditional, 225–227. *See also* Classroom learning; Schools; Training
- EduNeering, 136–138
- Effectiveness evidence: for games and gadgets, 286, 291–299; for knowledge transfer processes, 330
- E-learning: automation *versus*, 194; dropout rates for, 51–52, 166; effectiveness of games and gadgets *versus*, 292. *See also* Online learning environments; Online training
- E-Learning on a Shoestring* (Bozarth), 305
- Electronic Arts (EA), 29, 145
- Electronic boutiques, 114
- Electronic performance support system (EPSS), 213–216, 325
- Electronic Performance Support Systems* (Gery), 213
- E-mail: instant messaging *versus*, 167, 170, 279, 280; RSS feeds *versus*, 180; as training distribution mechanism, 167
- Emotions: realistic avatars and, 206–207; in simulations, 78, 85; in video games, 26–27
- Employee suggestion system, 149–150
- Employee surveys, 281, 291, 323, 331–332, 338
- Emulations, 89, 93. *See also* Physical procedural simulations
- Encyclopedia Britannica*, 174
- Encyclopedias, 173–175
- Ender's Game*, 266
- Enjoli perfume commercial, 10
- Enron, 220
- Enspire Learning, 106, 108
- Enter the Matrix*, 29, 144
- Enterprise-level planning. *See* Knowledge requirements planning
- Enterprise resource planning (ERP) systems, 140, 187
- Enthusiasm, 330–331
- Entitlement, sense of, 255
- Entrepreneurialism, encouraging, 233
- Equipment and machinery: automation of, to minimize training, 191–217; concept knowledge of, 60; declarative knowledge of, 56; expert problem solving for, 83–84; hands-on training for, 89; procedural simulations for, 88–93, 101, 111; training challenges of, 88–89
- e-Strat* game, 293
- Ethics, 160, 161
- E-tutoring, 255
- Europe: retirement in, 7; text messaging popularity in, 182; video game popularity in, 28, 29
- Evaluation, of knowledge transfer processes, 331–333, 337–338
- EverQuest*, 16, 20, 78–79
- Exit interviews, 120–122, 141
- Exit plans, 243
- Expediting, 151–152
- Expert systems, 214–215
- Experts and expertise: accessing, with handheld gadgets, 116, 127–142; cataloguing, 120–122, 123–124; incorporating, in simulations, 88, 91, 92–93, 97–98; innovation and, 245–246; in problem solving, 83–84, 104–105; social networking tool for sharing, 176–178. *See also* Knowledge transfer
- Explicit knowledge, identification of, 320. *See also* Knowledge headings
- Exploration: in gamer 2.0 games, 18–19; in gamer 3.0 games, 21
- Eyeshare concept, 158–159
- EyeToy, 15, 201–204
- EyeToy Kinetic*, 203
- EyeToy: Operation Spy*, 203

F

- Face-to-face meetings, 9, 170
- Facial recognition software, 203
- Facts, memorization of, 49, 51. *See also* Declarative knowledge
- Failing forward, 232–233. *See also* Trial-and-error learning
- Failure: allowing, 232–233; boomers' attitudes toward, 247–248; gamers' attitudes toward, 35–36, 40, 104, 232, 248
- Fairly Odd Parents! Breakin' Da Rules*, 221
- Far-transfer learning, 100
- Fast-food restaurants, wireless in, 115–116
- Federal Trade Commission, 145
- Feedback, instant: in electronic performance support systems (EPSS), 215–216; gamer expectations

- for, 19, 25, 254–255, 272; in job application process, 254–255; learning and, 25, 27; motivation and, 27; on workplace performance, 272
- Female gamers, 19, 23, 24–25; Web sites for, 24
- Fern, K.Y.S., 182
- FIFA Soccer*, 252
- Filing game, 62, 63
- Final recommendation, in business case, 300–301
- Financial comparison and analysis, in business case, 299–300
- Financial sophistication, 270–271
- First-person perspective, video games with, 75–77
- Flash mobs, 38, 128
- Flash teams, 128–129
- Flexibility: gamers' need for, 223, 224; in team process, 242; of work schedule, 268; of workplace, 267–268
- Flickr*, 124
- Flight Simulator*, 15, 80
- Flight Simulator 2004*, 77
- Florida State University, 204
- Flow state, 27
- Folksonomy, 124
- Fong, D. "T.", 252
- Food and Drug Administration, 139, 180
- Food-service rule games, 67–68
- Football play simulations, 96, 111
- For Dummies books, 152–153
- Ford Motor Company, 7
- Form completion, online assistance for, 214, 215
- France: Order of Arts and Letters of, 28–29; retirement in, 7; video game popularity in, 28–29
- Free agency, 272–273
- Freelancing, 225, 256
- Frequently asked questions (FAQs), for recruitment, 257
- Friendster, 171
- Fundraising wiki, 175–176
- G**
- Gadgets, 113–142; adopting, in organizations, 275–308; advantages of, 127, 141–142; attributes of, 116–127; automated cataloguing and, 119–124; boomer *versus* gamer perceptions of, 40; broadband wireless networks and, 117–119; caveats of, 127–128, 142; disguising, to promote acceptance, 277, 301–303; evidence for effectiveness of, 291–299; game-based, 114–116; gamer expectations for, 113–116, 256, 259; increasing power of, 124–126; knowledge transfer uses of, 116, 127–142; proliferation of, 113–116; in schools, 126–127, 132–133, 229–230; stigma against, in organizations, 40, 73, 275–277, 278, 280, 286–288, 301; types of, 116; workplace implications of, 141–142
- Gadgetsgamesandgizmos.com, 44, 360
- Gagné, R., 46
- Game Boy Advanced, 15, 115
- Game design: for hierarchical learning, 49; simulation design *versus*, 81; for teaching concept knowledge, 61–66, 73; for teaching declarative knowledge, 52–60, 73; for teaching rules knowledge, 67–72, 73. *See also* Casual games; Video games
- Game engines: concept of, 70; modifying, 306–307
- Game shells, 306
- Gamegirlz.com, 24
- Gamepal.com, 345
- Gamers: activities for, to understand boomers, 354–356; ages of, 14, 16, 17, 18, 20, 21; authority issues with, 219–249; boomers' image of, 1–2; chart of, by level and age, 16–17; chasm between boomers and, 3–4, 38–42, 350–355, 359–360; cheating and, 145, 146–149, 150–152, 158–161, 233–234; definition of, 14; disrespect of, for authority, 40, 219–223, 246–248; future workplace of, 356–358; gadgets and, 113–116; gender and, 19, 23, 24–25; ideal learning events for, 184–185; information expectations of, 163–165; information search hierarchy of, 130; instant messaging and, 168–170; involving, in knowledge transfer design, 327; knowledge hierarchy and, 49; knowledge transfer system for boomers and, 311–339; learning about, 352–354, 359–360; learning styles of, 40–41, 165–166, 184, 327; levels of, 14–23; managing, 231–236; population of, 13; problem-solving skills of, 30–33, 83, 104; recruitment and retention of, 251–274; rule-bending and, 153–161; simulations and, 78–79, 84–85; teaching, 231–236; traits of, 29–38, 223–225, 244–246, 253
- Gamers 1.0, characteristics of, 16–17
- Gamers 2.0, characteristics of, 16–17, 18–19
- Gamers 3.0: characteristics of, 16–17, 20–21; technological acumen of, 225

- Gamers 4.0: characteristics of, 16–17, 21–23; future workforce and, 356–358; technological acumen of, 225
- Games. *See* Casual games; Massively multiplayer online role-play games; Simulations; Video games
- GameTrain, 56–57
- Gaming the system, 153–159
- Gannett, 182
- GarageGames, 306, 336
- Gas stations, self-service, 217
- Gates, B., 39
- Gauntlet*, 18, 19
- General Electric, 270
- Generalizability, of video game learning, 25–26
- Generation X (Gen Xers): cheating and, 154–155; gamers *versus*, 28, 37, 225
- Germany: retirement in, 7; video game popularity in, 28
- Gery, G., 213
- Gladwell, M., 278, 282, 284
- Global Gaming League, 252
- Global Insight, 347
- Global perspective, of gamers, 255
- Global positioning system (GPS), 125, 195–196
- Global uncertainty, 248
- Global workforce trends, 7
- Goal alignment, for knowledge transfer, 317–319, 335–336
- Goal clarity, 241
- Goat game, 64, 65, 302
- God mode, 144
- Google: doocing and, 171; eyeshare concept and, 158–159; market value focus of, 159; popularity and growth of, 163–165; programming tournaments of, 252; Short Message Service (SMS) of, 182; Zeitgeist tool of, 182–183
- Googling, 163–165, 226
- Gookin, D., 153
- Got Game* (Beck and Wade), 29–30
- Government organizations: programming tournaments for, 252; RSS feeds for, 180
- Government sector, retirement trends in, 6
- Gran Turismo*, 15
- Gran Turismo 4*, 84
- Grand Theft Auto*, 15, 16, 220
- Grand Theft Auto: San Andreas*, 145
- Grand Theft Auto 3*, 22
- Grand Theft Auto: Vice City*, 221–222
- Grateful Dead, 9
- Growth opportunities, 272
- Grrlgamer.com, 24
- Guidelines, teaching, 100–103. *See also* Principles knowledge
- Guilds, 233–234
- Guinness Book of World Records*, text messaging standard of, 181–182
- ## H
- Half-Baked Software, 306
- Halo*, 15, 16, 21, 251, 252
- Halo 2*, 15, 21, 45, 46, 222, 252
- Handheld computers, 116, 126. *See also* Gadgets; Personal digital assistants
- Handheld devices. *See* Gadgets
- Handheld games, 13, 114–115, 240. *See also* Gadgets; Video games
- Hangman, 53–55, 78
- Harley Davidson, 8
- Harrah's Entertainment, 292–293
- Harry Potter and the Prisoner of Azkaban* game, 203
- Harry Potter books, 227
- Hartford Financial Services Group, 172
- Harvard Business School, 263
- Harvard Law School, 345
- Hazardous and operability (HAZOP) study simulation, 96–98
- Health care industry, retirement rates in, 322
- Health meters, 76
- Hello Real World!* (Liang), 269
- Help codes, 158–159
- Help systems, 187, 188–189; advisory/expert systems for, 214–215; electronic performance support systems (EPSS) and, 213–216; virtual assistants and, 204–207
- Hero, being the, 19, 21
- Hierarchical organizational structure, 12, 185, 222–223, 224, 243
- High schools, 228. *See also* Schools
- Hill, K., 6
- History education, in video games, 227, 348–350

- Hockey game, computerized, 154–155
- Hollywood, 28
- Hollywood Squares, 292
- Home offices, 267–268
- Hospitals, RFID tags in, 139–140
- Hot Potatoes, 306
- How to Think Like Einstein* (Thorpe), 245
- Howe, A., 135
- Hughes, J., 261, 263, 273
- Hummel, L. R., Jr., 230
- Hypothesis-testing, 101–102
- I**
- IBM, 122, 172, 345
- Ice cream server game, 68
- Idealism, of boomers, 9, 12
- Ideas Are Free*, 149–150
- Identity, work-defined, 10
- IEEE 802.16e standards, 118
- If-then charts, 213–214
- If-then statements, 48, 66–67
- Image: corporate, for games and gadgets, 301–303; importance of, to boomers, 247–248
- Implementation, of games and gadgets in corporations, 275–308
- Independence: of boomers, 8; of gamer employees, 225, 268, 272–273
- Independent consultants, boomers as, 5
- Indexing, 186–187
- Individualism, of boomers, 8, 10
- Informal leaders, 288–289
- Informal learning, 163–190; with blogs, 170–172; creating channels for, 186–187; gamer expectations and, 163–167; with informal networks, 176–178; with instant messaging, 167–170; with RSS, 179–181; search-term tracking and, 182–183; small chunks and, 184–185; teaching information retrieval skills for, 187–190; with text messaging, 181–182; with wiki, 173–179; workplace implications of, 185–190. *See also* Knowledge transfer; Learning
- Information and communications technologies (ICT), wiki textbook on, 178–179
- Information channels: creating informal, 186–187; multiple, 185, 187
- Information chunks: in corporate training, 184–185; gamer preference for, 41, 184; preparing, 186–187
- Information overload, 33–34, 40, 235
- Information processing, boomer *versus* gamer styles of, 40, 185, 188
- Information searching: boomers and, 188; encouraging, 234–235; gamers' expectations and proficiency with, 163–166, 188, 189–190; gamers' hierarchy of, 130; meta-tags and, 120, 122, 123–124, 186–187; preparing channels for, 186–187; with RSS feeds, 179–181; teaching the tools of, 185, 187–190. *See also* Internet searching
- Information sharing: boomer and gamer approaches to, 233–234, 314; knowledge transfer *versus*, 325–326. *See also* Knowledge transfer
- Infrastructure, for knowledge transfer, 316
- Innovation: adoption of, 275–308; of boomers *versus* gamers, 245–246; diffusion of, 278–283
- Instant messaging (IM) and Instant Messenger, 243; abbreviations used in, 168; adoption of, 278, 279, 280, 283; advantages of, 169–170, 279; boomers' dislike of, 279; e-mail *versus*, 167, 170, 279, 280; gamers' fondness for, 167–168, 279; for informal learning, 168–170; providing rules for using, 328
- Instruction types, 212
- Intel, 345
- Intelligent Vehicle Initiative, 196
- Interactive Conversation Interface (iCi), 207–211
- Interactive productivity software, 215
- Interactivity level: of gamers 1.0, 16, 17; of gamers 2.0, 16; of gamers 3.0, 16, 20; of gamers 4.0, 16, 23
- Interface. *See* Customer interface; User interfaces
- Internalization, of procedural knowledge, 87
- Internet: driving directions on, 194–195; wireless networks and, 117–119
- Internet games, 13; time spent playing, 23
- Internet searching: encouraging, 234–235; for game development tools, 306; gamers' expectations and, 163–165, 226; impact of, on respect for authority, 222; tools for tracking, 182–183; trial-and-error learning and, 35–36. *See also* Information searching; Search engines
- Internet use statistics, 23
- Interns, for low-cost development, 305–306
- Interviews, of boomers: questions for, 186; recording and accessing, 120–122, 141. *See also* Job interviews

Intranets, search-term tracking in, 183
 IntroNetworks, 176
 Inventory management knowledge, 47; board game for teaching, 69–70
 iPods: with corporate image, 303; interface of, 199–200; password protection and, 142; podcasting with, 131, 133; video, 116, 126, 133–136, 137, 138, 141, 229–230, 259, 303
 Ireland, video game popularity in, 28
 Italy, retirement in, 7
 iTunes, 131, 132
 Iwata, S., 23

J

J. P. Morgan, 9
 Jack Principles, 209–211
 James Bond, 75–76, 78, 92
James Bond Nightfire, 145
 James S. McDonnell-Pew Foundation, 25
 Japan: retirement in, 7; video game popularity in, 20, 28
 Jellyvision, 207–211
Jeopardy-type games, 304–305, 306
Jimmy Neutron Boy Genius, 221, 222
 Job advertising, 256–259
 Job aids, 325; electronic, 187, 189; traditional written, 98–99, 136; visual, 136–138
 Job interviews, 255
 Jobs, S., 133
 John *Madden Football*, 15, 20, 22–23
 Johnson & Johnson, legal department games of, 52–53, 55, 56, 280
 Joplin, J., 347
Journal of Accountancy, 126
Journal of Physical Education, 126
Journey to the Wild Beyond, 204
 Jump drives, 116
 Just-in-time information: gamer preference for, 41, 184; learning chunks and, 184–185
 Just-in-time initiatives, 86
 Just-in-time learning: in customizable instruction, 213; embedding, in software/hardware systems, 196
 Just-in-Time (JIT) reordering game, 69

K

Kapp, N., 20
 Karlkapp.blogspot.com, 353
 Kawashima, R., 347
 Kearney, K., 24
 Keifer, S., 346
 Kennedy, J. F., 9
 Keystone National High School, 228
 KFC, 115–116
 King, M. L., Jr., 9, 154
 Kiosks, 192–193, 216
 Kirkpatrick, D., 331
 Knowledge: basic types of, 46–74, 82; boomer *versus* gamer perceptions of, 40; concept, 47, 48, 60–66; declarative, 47, 48, 49–60; explicit, 320; hierarchy of, 46–49, 71–72, 82–83, 222; higher-level types of, 47, 82–112; information *versus*, 325–326; of principles, 82, 83, 100–103, 111; problem-solving, 82, 83–84, 103–110, 111; procedural, 82, 83, 85–100, 111; rules, 47, 48, 66–72; simulations for types of, 111; tacit, 321
 Knowledge audit, 319–324, 336
 Knowledge broker, 284. *See also* Connectors; Opinion leaders
 Knowledge council, 319, 335–336
 Knowledge loss: consequences of, 309–311, 338; determining rates of, 321–323
 Knowledge requirements planning (KRP) model, 311–339; alignment component of, 317–319, 335–336; case study of, 334–338; continuation component of, 333–334, 338; deployment component of, 329–331, 337; design component of, 324–327; development component of, 327–328, 336–337; diagnosis/audit component of, 319–324, 336; evaluation component of, 331–333, 337–338; management component of, 311–317, 334–335; overview of, 311; providing guidelines and policies for, 328; rationale for, 309–311; workplace implications of, 334–338
 Knowledge retention testing, 332
 Knowledge transfer: with automation, 196, 216–217; of basic types of knowledge, 46–74, 82; boomer-gamer chasm and, 3–4, 38–42, 350–355, 359–360; boomer workplace exodus and, 2–7, 41–42, 254, 291, 321–323; casual games for, 73–74; deployment of processes for, 329–331, 337; designing systems for, 324–327; evaluation

- of, 331–333, 337–338; with gadgets, 116, 127–142; gamer-focused design of, 327; of higher-level knowledge, 82–112; with informal learning, 166–190; initiating games and gadgets for, 275–308; maintenance of, 333–334, 338; management of, 311–317; need for, 2–7, 41–42, 309–311; new paradigms for, 41–43; organizational impact of, 332–333; of procedural knowledge, 87, 111; recording and cataloguing for, 120–124, 133–138, 186–187; review of existing processes of, 321; with simulations, 84–85, 110–112; summary of methods for, 350–352; systematic process for, 309–339. *See also* Learning
- Konami, 146, 204
- KRP. *See* Knowledge requirements planning
- Kung Fu game, 201
- L**
- Labels, memorization of, 49, 56. *See also* Declarative knowledge
- Labor shortage, 6–7, 253–254
- Ladygamers.com, 24
- Language-learning simulation, 104–106, 107
- Laparoscopic surgery, 292
- Laptops, proliferation of, 116
- Last Starfighter, The*, 266
- Laura Croft, 28
- Layoffs, 6, 10, 12
- Leadership: gamers' distrust of, 220; informal, 288–289; learning, 100; simulations for learning, 101–103, 106–110, 292, 294–299. *See also* Authority; Boss; Management
- Learning: adaptive systems for, 212–213, 215; in classroom *versus* game environments, 25, 40; effectiveness of games and simulations for, 291–299; embedding, in systems, 196, 217; embedding, in work flow, 213–216, 324, 325; of equipment procedures, 88–89, 111; game evolution and, 18, 21; gamer traits and, 29–30; gender and, 24; goals and, 25; informal, 163–190; information sharing *versus*, 325–326; as interaction, 100; intrinsic motivation and, 27; knowledge hierarchy for, 46–49, 71–72, 82–83, 222; of principles knowledge, 100; of problem solving, 103–104; of procedural knowledge, 87, 88–89, 111; research on, 25–26; with simulations, 75–81, 84–85; trial-and-error, 35–36, 40, 104, 232–233, 242; work-flow, 213–216. *See also* Informal learning; Knowledge; Knowledge transfer
- Learning by Doing* (Aldrich), 299, 352
- Learning environments: boomer *versus* gamer perceptions of, 40, 225–227; entertaining, in schools, 227–230; new paradigms for, 41–42, 226–230. *See also* Classroom learning; Schools
- Learning events, ideal, 184–185
- Learning styles: of boomers, 165; of gamers, 37, 40–41, 165–166, 184, 327
- LeBow College of Business, 132–133
- Lectures, 225–226
- Legal department, declarative knowledge games for, 52–53
- Legal education, 227–228, 347
- Legend of Zelda*, 15, 16, 18–19
- Lego Star Wars*, 241
- Leo Burnet, 345
- Leukemia & Lymphoma Society, 175–176
- Levels: of gamers, 14–23; of help, 187; of knowledge transfer evaluation, 331–333; in simulations, 92; in video games, 92
- Liang, J., 269
- Licensing, 306
- Lineage II*, 342
- Live-system training, 93–95
- Liveplasma.com, 200–201, 354
- Log-ins, multiple, 93, 94
- Logo contests, 263
- Logos, on corporate gadgets, 303
- London accountants survey, 5
- L'Oreal, 293
- Los Alamos National Laboratory, 3–4
- Lost Knowledge* (DeLong), 3
- Loyalty: of boomers, 8–9, 11; gamers' lack of, 225
- M**
- Macaw, 172
- Machinery. *See* Equipment and machinery
- Madden Football*, 15, 20, 151, 252
- Madden 2006*, 96
- Madden 2007*, 22–23, 111
- Magnavox Odyssey, 15, 17

- Mail sorting game, 62
- Maisie, E., 184
- Management: commitment of, to knowledge transfer, 326, 330–331, 337, 338; convincing, to invest in games and gadgets, 275–308; of gamers, 219–249; in knowledge requirements planning (KRP) model, 311–317, 334–335; negative attitudes of, toward games, 40, 73, 275–277, 278
- Managers. *See* Boss
- Manic Mansion*, 16
- Manuals: gamers and, 130; knowledge transfer and, 326
- Manufacturing industry: automation examples in, 197–198, 199, 216; board games for, 69–70; “poka-yoke” technique in, 196–197; procedural simulations in, 89–91, 96–98; recruitment challenges in, 6; retirement trends in, 6; smart equipment in, 140; strategic knowledge objectives in, 318; Visual Job Aids in, 136–138
- Maps, 194–195
- Mario Kart*, 115
- Marriott International, 259
- Maru, K., 154
- MARVEL (Multimedia Analysis and RetrieVAL), 122
- MASIE Center, 49, 81
- Massively multiplayer online role-play games (MMORPGs): accountability in, 242; black market in, 341–342; cheat codes in, 159; development costs of, 299–300; evolution of, 20, 21–22; money in, 341–343; real-world intersections with, 341–345; teamwork in, 237–239, 240. *See also* Virtual worlds
- Master performers, 88, 91, 92–93, 136
- Matching games, 57–58
- Math knowledge, 47, 67
- Matrix, The*, 342
- Matrix Path of Neo, The*, 220
- Mattel’s Intellivision, 13
- Mazes, 31–32, 305
- McCartney, P., 347
- McDonald’s restaurants, 115
- “Me” generation, 8
- Meaningful work: providing gamers with, 235–236, 242, 269–270; recruiting gamers with, 255, 260; retaining gamers with, 269–270; in teams, 242
- MediaWise Video Game Report Card, 23
- Memorization, 49–52; casual games for, 52–60; multiple-choice questions for, 72. *See also* Declarative knowledge
- Memos, game for writing, 57–58
- Mentors: in apprenticeship relationship, 211, 212; incentives for, 315; in retail banking case study, 336–337; reverse, 270, 282; virtual, 109, 110, 129–130, 136, 204–207; in workplace, 270. *See also* Avatars
- “Mercedes Benz,” 347
- Merit system, 36, 235–236, 242
- Mesch, R., 85
- Meta-tags, 120, 122, 123–124, 186–187
- Metal Gear Solid*, 21, 348
- Metal of Honor*, 227
- Microchips, 139–140
- Microsoft, 31, 32, 171, 243, 252, 262, 346
- Microsoft *Flight Simulator*, 15, 77, 80
- Microsoft Origami, 328
- Microsoft Windows, 13, 72–73, 347
- Microsoft Word, Office Assistant in, 205–206, 216
- Midtown Madness*, 292
- Mistake-proofing, 196–197
- Miyamoto, S., 19, 29
- MMORPGs. *See* Massively multiplayer online role-play games
- Mock request for proposal (RFP), 263–264
- Modding, 306–307
- Monitoring: in electronic performance support systems (EPSS), 215–216; of knowledge transfer process, 316–317; of search terms, 182–183; with video cameras, 135–136
- Moon, sending astronauts to, 310
- Moore, G., 278
- Moore’s law, 124
- Mori, M., 206
- Mortal Combat*, 21
- Mothers Against Drunk Driving (MADD), 9
- Motivation: for knowledge transfer, 326; in video games, 27–28
- Mountain climbing game, 64, 65, 302
- Mouse, 13
- Mouse training, 73
- Movements, 9
- Movies, video game characters in, 28

MP3 devices: increasing power of, 125–126; interfaces of, 200; on-demand audio with, 131–133, 141; proliferation of, 116. *See also* iPods

MSNBC, 354

Multimedia cataloging, 119–124. *See also* Audio; Text; Video

Multiplayer role-play games, evolution of, 19, 20. *See also* Massively multiplayer online role-play games

Multiplayer wireless games, 115

Multiple-choice questions: for concept knowledge, 65, 72; for declarative knowledge, 72; for rules knowledge, 68, 72; types of, 72; use of, 70–72

Multiplication tables, 51

Multitasking: encouraging, 235; exit plan and, 243; as gamer trait, 33–34, 40, 235; information overload *versus*, 33–34, 40, 235

Music software interface, 200–201

Myst, 15, 16, 20, 293

My.yahoo.com, 179–180, 354

N

Names, memorization of, 49, 56. *See also* Declarative knowledge

Nano learning, 184

Napster, 131

National Aeronautics and Space Administration (NASA), 310

National Center for Telecommunication Technologies (NCTT), 178–179

National Governors Association, 39

National Institutes of Health, 25

National Science Foundation, 89, 178, 204

Nature, 174, 292

Navigation, increasing automation of, 194–196

Nesson, R., 345

Networks: informal knowledge, 176–178; recruiting through, 259–260. *See also* Virtual communities; Wireless networks

New economy, 158–159

New York City, 84

News Clips, 167

News services, text messaging by, 182

Newsletter, for recruitment, 258

Nickelodeon, 354

Nickjr.com, 21

Nike, 133

Nintendo, 13, 19, 23, 24, 29, 347; McDonald's wireless zones and, 115

Nintendo DS, 15, 115, 117, 240, 347

Nintendo Entertainment System (NES), 15, 146–147

Nintendo Game Boy, 13, 15, 24, 115

Nintendo Game Cube, 15

Nintendo Power, 146

Nintendo 64, 15, 20

Nintendo Wii, 15

Nintendogs, 24, 78

Nissan, 346

Nixon, R., 10

Nonlinear format: allure and power of, 27–28; for content learning, 49; of gamer 4.0 games, 22; knowledge hierarchy and, 49

North Carolina A&T State University, 297–298

Novartis, 184

O

Objectives: in business case, 299; strategic knowledge, 317–319, 335–336

Observability factor, in technology adoption, 283

Observation, automation for, 216

Oehlert, M., 49, 81, 104

Oil and gas industry, retirement trends in, 6

On-demand audio, 131–133

On-demand text, 130–131

On-demand video, 118, 133–136

Online communities. *See* Virtual communities

Online fundraising, wiki for, 175–176

Online guilds, 233–234

Online learning environments, 227–228. *See also* E-learning; Learning environments; Online training

Online role-play games. *See* Massively multiplayer online role-play games (MMORPGs)

Online trading, 22, 222

Online training: one-size-fits-all paradigm of, 211–212; “page turner” type of, 51–52. *See also* E-learning

Operational procedures simulation: aspects of, 96, 111; examples of, 96–100, 111

Opinion leaders, 284, 288–289

Orbitz, 140

- Oregon Trail*, 15, 18
- Organization(s): automation in, 216–217; bringing games and gadgets into, 275–308; cheating in, 149–150, 151–153, 159–161; informal learning in, 166–190; instant messaging in, 169; knowledge transfer impact assessment in, 332–333; knowledge transfer planning in, 309–339; learning chunks in, 184–185; RSS feeds in, 180–181; search-term tracking in, 183; technology adoption continuum in, 284–289; technology adoption factors in, 278–283; technology adoption promotion in, 289–308; text messaging in, 182; value of casual games in, 72–74; value of gadgets in, 141–142; value of simulations in, 110–112
- Organizational behavior course, leadership simulation in, 295–297
- Organizational structure: boomer *versus* gamer perceptions of, 40; hierarchical, 12, 185, 222–223, 224, 243; for knowledge sharing, 315–316
- Origami, 328
- ## P
- Pac-Man*, 13, 15, 16, 18
- Pacing, in interactive program, 210
- “Page turner” training, 51–52
- Parks, R., 154
- Participation, in knowledge transfer process, 331
- Pastry quality control automation, 199
- Paterno, J., 96
- Patience and impatience, 224, 243, 246
- Pay-for-performance systems, gamers’ preference for, 36
- PDAs. *See* Personal digital assistants (PDAs)
- Peace Corps, 9
- Peer learning, of gamers, 40
- Penn State football team, 96
- Pennsylvania College of Technology, 89
- Performance Development Group, 85, 99
- Permissions, 306
- Personal digital assistants (PDAs): proliferation of, 116; uses of, 126–127. *See also* Gadgets; Hand-held computers
- Personal growth opportunities, 272
- Personal Jukebox-100 (PJB-100), 200
- Peters, T., 11, 243
- Pharmaceutical/health care company, informal knowledge network of, 176–178
- Pharmaceutical manufacturing facility, Visual Job Aids for, 137
- Pharmaceutical sales representatives: simulation for training, 98–100; vodcasting for, 134–135
- Philadelphia, wireless Internet access in, 118
- Phillips, J., 331
- Phoenix Write: Ace Attorney*, 347
- Physical movement applications, 203–204, 292
- Physical procedural simulations: aspects of, 88–89, 111; examples of, 89–93, 111
- Pilot projects, 328
- Planning, for knowledge transfer process, 313–314.
See also Knowledge requirements planning
- Plastics manufacturing simulation, 89–91
- PlayStation, 13, 15, 20, 28
- PlayStation Portable (PSP), 13, 15, 115, 117, 125
- PlayStation 2: EyeToy with, 201–204; games on, 15, 75, 96, 144, 145, 227
- PlayStation 3, 15, 240; game development costs for, 45
- Podcasting, 131–133; of job openings, 258, 259
- Poka-yoke, 196–197
- Pong*, 15, 16, 17, 18, 24
- Poole, E., 132
- Popular culture, of boomers *versus* gamers, 14
- PowerPoint: low-cost game development with, 304–305; in traditional classrooms, 226
- Practice, in problem solving, 103–104
- Pragmatists, technology, 284, 286, 288
- Pretesting, for customized instruction, 212–213, 215
- Princess Fashion Boutique*, 24
- Principles knowledge: defined, 82, 100; examples of, 82; as knowledge type, 47, 100; learning, 100; prerequisite knowledge and, 82–83; simulations for teaching, 101–103, 111
- Prioritization, 235
- Problem description, 289, 291
- Problem identification, 103
- Problem solving: defined, 82, 103; elements of teaching, 103–104; examples of, 82; gamers and, 30–33, 83, 104; as knowledge type, 47, 82, 103–104; of novices *versus* experts, 83–84, 103–104; practice in, 103–104; prerequisite knowledge and, 82–84, 103, 104; variable interaction in, 103
- Problem-solving simulators: defined, 104, 111; examples of, 104–110, 111

- Problem statement, 289, 290
- Procedural knowledge: aspects of, 85–87; defined, 47, 82, 85; examples of, 82, 88; internalization of, 87; prerequisite knowledge and, 82–83; sequence for teaching, 86–87; simulations for, 88–100, 111
- Procedural knowledge simulations: development of, 88; operational, 96–100, 111; physical, 88–93, 111; software emulation, 93–96, 111; types of, 88, 111
- Production-line quality control, 199
- Productivity software, 215
- Programming tournaments, 252, 261–263
- Project Entropia*, 341–342
- Project Entropia Dollar (PED), 341–342
- Project manager simulation, 106–110
- Proposed solution, 289, 291–299
- PSP. *See* PlayStation Portable
- Pull *versus* push technology, 180
- PunkBuster, 159
- Purchasing: expediting, 151–152; of games *versus* simulations, 81
- ## Q
- Quake*, 252
- Quality, teaching concept knowledge of, 48, 60
- Quality improvement procedures, 86
- Quality time, 8
- Questionnaires, in Level 1 evaluations, 331–332
- ## R
- Racing games, 64–65, 73, 292, 302–303
- Radical overthrow, 280
- Radio, 347–348
- Radio-frequency identification (RFID) tags, 139–140, 292–293
- Ragnaros, 238–239
- Raiders of the Lost Ark*, 119
- Raynal, F., 28
- Reading, gamers and, 41, 130, 153, 227
- Real-world/game intersections, 341–350, 356–358
- Realism: of gamer 1.0 games, 16, 17; of gamer 2.0 games, 16, 18; of gamer 3.0 games, 16, 20, 21; of gamer 4.0 games, 16, 22–23; of simulations, 75–81
- Really simple syndication. *See* RSS
- Realtor knowledge, 47
- Recognition, for knowledge sharing, 314–315, 337
- Recommendation section, of business case, 300–301
- Recording: of boomer exit interviews, 120–122, 141; of IM conversations, 169–170; multimedia, 120–124, 133–138
- Recreation and Dance, 126
- Recruitment, 251–267; gamers' expectations and, 253, 254–256; internal tool kit for, 260; methods of, 256–267; with technology, 256–259; through networking, 259–260; tournaments for, 252, 261–264; with video games, 264–267; working environment and, 267–273
- Relative advantage factor, in technology adoption, 278–280
- Reordering rules, 67, 69
- Repetition, 51, 87
- Request for proposal (RFP) contests, 263–264
- Requisitions, expediting, 151–152
- Research: on effectiveness of games, simulations, and gadgets, 291–299; encouraging gamers in, 234–235; on learning, 25–26
- Resident Evil*, 21
- Resilience, as gamer trait, 35–36
- Résumés, collecting, 258
- Retail banking: customer service game for, 306, 307, 336; knowledge in, 47, 66–67, 70, 71; knowledge requirements planning (KRP) case study in, 334–338
- Retail industry: customer experience and, 348; flash teams in, 128; rule games for, 67, 69–70
- Retention, working environment for, 267–273. *See also* Recruitment
- Retirement: age of, 5, 7; impact of, in business sectors, 6; trends in, 2–7, 41, 254, 291, 321–323
- Reuters, 345
- Reverse mentoring, 270, 282
- Rewards: for gamers, 270–272; for knowledge sharing, 314–315, 337
- RFID (radio-frequency identification) tags, 139–140, 292–293
- Rice University, 263
- Rise of Nations*, 227
- Risk analysis, gamer competitiveness and, 35
- Riven*, 26
- Road Runner, 36

Road runner game, 54–55, 73
 Rock groups, boomer loyalty to, 8–9
 Rock music, 221, 347
 Rock Star Games, 220
 Rogers, E., 278, 281
 Role models, 329–330
 Role-play, face-to-face, 281. *See also* Massively multi-player online role-play games (MMORPGs); Multiplayer role-play games
Roller Coaster Tycoon, 15, 111, 156–158, 190, 231–232, 352
 Rolling Stones, 8, 347
 RSS (really simple syndication): aggregator, 179–180; for career information, 258; on-demand video and, 134; searchability of, 180–181; uses and examples of, 179–181
 Rules: bending the, 153–161; boomers and, 160; establishing, 231–232, 241–242, 328; gamers and, 160–161, 231, 241; in games, 80; in simulations, 80; in teams, 241–242
 Rules knowledge: aspects of, 66–67; defined, 47, 48, 66; examples of, 48, 66–67; game designs for, 67–72, 73; multiple-choice questions for, 68, 72; strategies for teaching, 67
Runescape, 21, 22, 78–79, 236

S

Salary requirements and comparisons, 256, 270–272
 Sales clerks, flash teams of, 128
 Sales representatives: electronic performance support system (EPSS) for, 213–214; simulation for training, 98–100; vodcasting for, 134–135
 San Francisco, wireless Internet access in, 118
 Sandbox games, 22
 SAP, project manager simulation of, 106–110
Saturday Night Live, 347
Saturn 5 rocket, 310
 Scandals, 220
 Scheduled flexibility, 268
 Schools: effectiveness of simulations in, 294–299; gadgets in, 126–127, 132–133, 229–230; inadequacy of, for gamers, 39, 41, 42, 225–227; PDAs in, 126–127; podcasting in, 132–133; technology in, 226–230; video games in, 293; virtual communities in, 234, 345. *See also* Classroom learning; Colleges; Learning environments; Teachers; Training

Scientific-based organizations, informal knowledge networks for, 176–178
 Scorekeeping: compensation and, 270–272; gamers' expectations for, 242, 270–272
 Screen captures, paper-based, 94, 95
 Seafood preservation game, 67, 68
Search (Batelle), 188
 Search engines: popularity of, 163–165; providing instruction in using, 187–190
 Search term tracking, 182–183
 Searching. *See* Information searching; Internet searching
Second Life, 343–345, 354, 356
Secret of Monkey Island, 16, 20
 Security, handheld gadgets and, 142
 Sega Dreamcast, 15
 Sega Genesis, 15
 Segway, 230
 Self-confidence. *See* Confidence
 Self-directed learning, of gamers, 40
 Self-directed teams, 236–243. *See also* Teams
 Sensor technology, 140, 198, 204
 Sessler, A., 352
 Short message service (SMS), 182. *See also* Text messaging (texting)
 Shubert, A., 58
Sid Meier's Civilization, 15
 Siederer, M., 175–176
SimCity, 16, 21
Sims, The, 15, 16, 24, 32, 78, 353, 355
Sims 2, The, 15, 21
 Simulation(s), 75–112; blended approach to, 112; development costs of, 81; evidence for effectiveness of, 291–299; gamers and, 78–79, 84–85; games *versus*, 78, 79–81; higher-level knowledge and, 82–85; leadership, 101–103, 106–110, 292, 294–299; power of, for knowledge transfer, 84–85; principle-based, 100–103, 111; problem-solving, 104–110, 111; procedural, 88–100, 111; for professional development, 346–347; types of, with appropriate content, 111; in video games, 75–79; workplace implications of, 110–112
 Simulation design: approach to, 88; assessment in, 108–109; elements of, 85; game design *versus*, 81; for principles knowledge, 100–103, 111; for problem solving, 104–110, 111; for procedural knowledge, 88–100
Simulations and the Future of Learning (Aldrich), 299

- SimuLearn, Inc., 294, 296
 Sinclair Community College, 227–228
 Site maps, 187
 Six Sigma, 86
 Skepticism, of boomers, 9–10, 12
 Skeptics, technology, 284, 287–288
 Skunk works project, 303–304, 316
 Smart, working, 36
 Smart equipment, 139–140, 196. *See also* Automation
 Snyder, G., Jr., 179
 Soccer, 80
 Sociability, as gamer trait, 37–38, 100
 Social bookmarking service, 183
 Social Education, 126
 Social networking software, 176–178
 Social networks: of connectors, 288–289; in virtual worlds, 345
 Social simulators, 101–103, 111
 Social skills, 100
 Social status, technology adoption and, 283
SOCOM 3: U.S. Navy Seals, 240
 Soft skills, 100
 Software applications: boomer *versus* gamer perceptions of, 40; for cataloguing media, 122–123; classroom training in, 93–94; designing, to minimize training needs, 193, 196, 197, 325; for electronic performance support, 213–216, 325; help systems for, 188–189; live-system training in, 93–95; for on-demand audio, 131; procedural knowledge and, 86; simulation training in, 93–96, 111; for social networking, 176–178. *See also* User interfaces
 Software implementation simulation, 101–102
 Software industry, retirement and turnover rates in, 322
 Solitaire, 73, 276
 Solution, in business case, 289, 291–299
 Sony, 29
 Sony EyeToy camera, 201–204
 Sony NightShot feature, 126
 Sony PlayStation. *See PlayStation headings*
 Sorting games, 61–64
 South Dakota, Board of Regents, 228
 South Korea, video game popularity in, 29
Space Invaders, 15, 16, 18
 Space race, 309–310
 Spam, 180
 Spanish language learning simulation, 104–106, 107, 307
 Spirituality, of boomers, 9
 Sports professionals, salaries of, 271
 Springfield Technical Community College, 178
 Sprint commercial, 10
 Standard operating procedures (SOPs): inadequacy of, 3–4, 88, 136; Visual Job Aids (VJAs) for, 136–138
Star Trek, 41
Star Trek: The Next Generation, 207
Star Trek: The Wrath of Khan, 143–144
Star Wars Battlefront II, 45, 145
Star Wars Galaxies, 342
 Starbucks, 8
StarCraft, 252
 “Start Me Up,” 347
 Statistical process control, 86
 Statistics, in business case, 291
 Stewart, A. C., 297–298
 Stimulation, gamers’ need for, 225–226
 Stone-Briggs, A., 248
 Store checkout automation, 193, 216
 Store opening procedures, 96
 Strategic knowledge objectives (SKOs), 317–319, 335–336
 Strategy guide, 231–236, 243
 Street cred, 223
 Structure. *See* Organizational structure
 Success indicators, in business case, 299
 Sun, 262
Super Mario Brothers, 15, 16, 18, 24, 147
Super Mario 64, 16, 20
 Super Nintendo Entertainment System, 15
 Surgeons, benefits of video game playing for, 292
 Survey creation simulation, 95–96
 Surveys, employee, 281, 291, 323, 331–332, 338
 Systematic planning model. *See* Knowledge requirements planning
- T**
 Tacit knowledge, identification of, 321. *See also Knowledge headings*

- Tagging, data, 120, 122, 123–124, 186–187
- Tags, radio-frequency identification, 139–140, 292–293
- Teachable moments, 325
- Teachers: challenges of being, 225–230; retirement trends of, 6, 322; strategy guides *versus*, 231–236. *See also* Schools
- Team-building simulations, 100, 102–103
- Team management simulation, 106–110
- Team meeting simulation, 97, 111
- Teams: boomers and, 9, 12; flash, 128–129; knowledge council, 319, 335–336; to manage knowledge transfer process, 313–317, 330–331, 334–335; managing, 241–243; in massively multiplayer online role-play games (MMORPGs), 237–239; self-directed, 236–243; skunk works, 303–304; for study of knowledge gap, 43–44; virtual teamwork in, 239–243. *See also* Collaboration; Virtual teams
- Techies, 284–286, 288
- Technology: adoption of, 278–308; attractiveness criteria for, 278–283; boomers and, 11, 224–225; gamers' expectations for, 224–225, 256; getting buy-in for, 275–308; infrastructure for knowledge transfer, 316; in schools, 226–230; using, to attract gamers, 256–259
- Technology comfort level: of gamers *versus* boomers, 40, 224–225, 226, 281; of gamers *versus* Gen Xers, 37
- Technology enthusiasts (techies), 284–286, 288
- Technorati, 170, 183
- Teenagers: brain development in, 26; proliferation of gadgets and, 116
- Telecommuting, 267–268
- Telephone conversations, capturing, 169
- Television, 14, 17; game shows, 52; radio and, 347–348
- Temperature gauges, 197–198
- Terry McGinnis, 129
- Tetris*, 16, 19, 344
- “*Tetris Trance*,” 27
- Text: on-demand, 130–131; Visual Job Aids *versus*, 136–138
- Text messaging (texting), 181–182
- T.H.E. Journal*, 126
- Thinking. *See* Cognitive processing; Thought processes
- Thorpe, S., 245
- Thought processes: of gamers 1.0, 16, 17; of gamers 2.0, 16, 18; of gamers 3.0, 16; of gamers 4.0, 16–17, 23
- 3D Language: Spain, 104–106, 107, 307
- Time lines, 243
- Tipping point, 282
- Tipping Point, The* (Gladwell), 278, 282
- TiVo, 229–230
- Tomb Raider*, 16, 21, 28
- TopCoder, 261–263, 273
- Torque* game engine, 306, 307, 336
- Tournaments: programming, 252, 261–263; for recruitment, 253, 261–264; video game, 251–252
- Toys, preference for gadgets *versus*, 113–116
- Trade schools, 6
- Trainers, animated, 204–207. *See also* Avatars; Virtual mentors
- Training: casual games and, 73; customized, 211–213; effectiveness of innovative *versus* traditional, 291–299; gamers' learning style *versus* traditional, 165–166, 184; memorization in, 51–52; need for new paradigms of, 41–42; replacing, with automation, 193–194, 196–217; timing of, 184; turnover and, 198. *See also* Classroom learning
- Transactional volume, automation and, 217
- Trial-and-error learning: allowing, 232–233; as gamer trait, 35–36, 40, 104, 232; in teamwork, 242
- Trialability factor, in technology adoption, 282–283
- Tringo*, 344
- Triple-play bandwidth-intensive media, 118
- Troy University, 295–297
- Truck driving simulation, 346–347
- Trust, 247, 314
- TurboTax, 215
- Turnover rates, 198, 322
- Tutoring, online, 255
- Tyco, 220
- ## U
- Ubisoft, 29
- Ultimate Video Gamers League, 252
- Ultra wide band (UWB), 118, 119

- Uncanny valley, 206–207
- Uncertainty, 248
- United Kingdom: game-based education in, 293; retirement in, 7; text messaging popularity in, 182
- United States: in new space race, 309–310; text messaging in, 182
- U.S. Army, recruitment game of, 264–267, 280, 299–300, 354
- U.S. Bureau of Labor Statistics, 5
- U.S. Commerce Department, 23
- U.S. Defense Department, 6
- U.S. Department of Transportation, 196
- U.S. National Security Agency, 252
- University of Iowa, 263
- URGE, 346
- USA Today*, 38, 182, 347
- User interfaces: with conversational avatars, 207–211; design of, 193, 199–204, 328; examples of well-designed, 199–204; non-keyboard, 202–204
- Utility industries, retirement rates in, 322
- UWB (ultra wide band), 118, 119
- V**
- Van Horne, M., 228
- Vander Wal, T., 124
- V-Bank*, 299
- VeriChip, 139–140
- Verizon, 172
- Vidcasting, 134
- Video(s): audio *versus*, 131; cataloguing and accessing, 120–124; devices for recording and viewing, 126, 133–136, 137, 138; of exit interviews, 120–122, 141; meta-tagging, 120, 122, 123–124; on-demand, 118, 133–136; real-time, 135–136; vodcasting, 133–136
- Video game(s): adopting, in organizations, 275–308; allure and power of, 25–29; and attitudes toward authority, 219–222; boomer *versus* gamer perceptions of, 40, 275–277; casual, 46, 52–60; defined, 13; disguising, to promote corporate acceptance, 277, 301–303; evidence for effectiveness of, 291–299; evolution and levels of, 13–25; and gadgets, 114–116; global market for, 28–29; hours spent playing, 23; link between learning and, 18; modifying, 306–307; platforms of, 13; real-world intersections with, 341–350, 356–358; for recruitment, 258, 264–267; simulations and, 75–81; stigma against, in corporations, 40, 73, 275–277, 278, 280, 301; timeline of, 15; wireless, 115, 117, 118, 125. *See also* Casual games; Game design; Massively multiplayer online role-play games (MMORPGs); Simulations
- Video game development costs: analysis of, in business case, 299–300; of casual games, 46; low-cost approaches to, 304–307; of major games, 45–46; *versus* simulation development costs, 81
- Video game industry: cheat codes and, 145; economics of, 28–29, 346; online teamwork and, 240
- Vietnam War, 10
- Virage, 123
- Virtual assets, 341–345, 346
- Virtual communities: of cheaters, 150–152, 342–343; constant connection and, 243; examples of, 341–345; of practice, 178, 233–234, 240
- Virtual labs, 89. *See also* Physical procedural simulations
- Virtual Leader*, 292, 294–299
- Virtual mentors, 109, 110, 129–130, 136, 204–207. *See also* Avatars; Mentors
- Virtual products, 89. *See also* Physical procedural simulations
- Virtual Reality Medical Center, 292
- Virtual teams: flash teams and, 128–129; management simulation for, 106–110; in programming tournaments, 261; self-directed, 236–243. *See also* Teams
- Virtual worlds: gamers as authorities in, 222; in language-learning simulation, 105–106, 107; real-world intersections with, 341–350, 356–358; simulations and, 78–79. *See also* Massively multiplayer online role-play games
- Visionaries, technology, 284, 285–286, 288
- Visual Job Aids (VJAs), 136–138
- Vocational schools, 6
- Vodcasting, 118, 133–136
- Volunteerism: of boomers, 12; of gamers, 269–270
- W**
- Wachowski Brothers, 143
- Wade, M., 29–30, 36
- Wage inflation, 271–272

- Wal-Mart, 345
Wall Street Journal, 261
 WAN (wide area network) or Wi-Fi, 117, 118, 119
 Watergate, 10
 Web-based if-then charts, 213–214
 Web-based instruction. *See* E-learning; Online training
 Web logs. *See* Blogs
 Web search. *See* Googling; Internet searching; Search engines
 Web site, corporate: “Careers” section of, 256–259, 260; games section of, 283
 Web site tracking, 182–183
 Webb, M., 352
 WebMd.com, 222
 Welsh, J., 270
 West Point, 265
 Whack a Mole game, 62–64, 78
Wheel of Fortune, 52, 53
Where in the World Is Carmen Sandiego?, 15, 18
Who Wants to Be a Millionaire?, 306
 Wi-Fi, 117, 118, 119
 Wide area network (WAN) or Wi-Fi, 117, 118, 119
 Wiki: background on, 173; examples of, 173–179
 Wikipedia, 173–175
 Wilddivine.com, 204
 Wile E. Coyote, 36
 Williams, J. A., 297–298
 WiMax (worldwide interoperability for microwave access), 117–118, 119
 Wireless game platforms, 115, 117, 118, 125
 Wireless local area network (WLAN), 117, 119
 Wireless metropolitan access network (WMAN), 117–118, 119
 Wireless networks: range and applications for, 119; types and attributes of, 117–119
 Wireless personal area network (WPAN), 118, 119
 Wireless Philadelphia, 118
 Wireless USB, 118
 WLAN (wireless local area network), 117, 119
 WMAN (wireless metropolitan access network), 117–118, 119
 Womengamers.com, 24
 Word search game, 55–56, 73
 Work ethic: bending the rules and, 159–161; of boomers, 8, 10–12
 Work flow: knowledge transfer embedded in, 324, 325; learning embedded in, 213–216
 Work-life balance, 255, 258
 Workaholics, 8
 Workforce trends, 6–7, 321–323. *See also* Retirement
 Workplace: for attracting and retaining gamers, 267–273; automation in, 216–217; boomer ethos in, 10–12; boomer traits in, 7–12, 223–225; boomer *versus* gamer learning at, 165–166; casual games in, 72–74; cheating in, 149–150, 159–161; future of, 356–358; gadgets in, 141–142; gamer traits in, 223–225; informal learning in, 166–190; initiating games and gadgets in, 275–308; knowledge requirements planning (KRP) case study in, 334–338; managing gamers in, 219–248; simulations in, 110–112
World of Warcraft (WoW), 15, 16, 21, 78–79, 233–234, 342–343
 WorldCom, 220
 Worldwide interoperability for microwave access (WiMax), 117–118, 119
 WPAN (wireless personal area network), 118, 119
- X**
 “X-Play,” 353
 Xbox, 13, 15, 346
 Xbox 360, 15; game development costs for, 45
- Y**
 Yahoo!, 243, 262
You Don’t Know Jack, 15, 207–211, 354
 YouTube, 120, 123, 185
- Z**
 Zeitgeist, 182–183
Zoo Tycoon, 15, 32, 222