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

supply chain training, 183 Absenteeism problem, 49 trapdom hints model on, 269 Activity What Does Glue Stick? training, 187, autonation interactive sales scenario, 185 fig – 190 fig 206, 207fig Who Wants to Be a Miller? training, characteristics of good and poor 278–280fig, 281fig interaction, 254t See also CCAF (context, challenge, Cooking with Flair training, 166 activity, and feedback) framework Earthquake epicenter e-learning ADDIE model (or ISD) instruction, 37fig advantages of successive approximation Expedia phone-based customer service approach over, 309 training, 137, 140*fig* description of the, 104–106 instructional interactivity component five phases of ISD or, 299-300 of, 237, 240fig-241fig, 247-248fig, flawed process of the, 300–301 250-251, 254tsuccessive approximation approach In Their Virtual Shoes training, 294fig superiority over, 309 NYU Medical Center ICIS training, successive approximation as alternative 272, 274–275 to, 301 POST LERT First Responder true story on law book publisher training, 193, 195fig-197fig training and poor experience with, POST LERT Recognizing and Reporting training, 288, 290fig 303 - 304Railroad Safety for Professional "A-ha!" experiences, 201 Airline mechanics training objectives, Drivers training, 247–248fig short-order chef training, 151 142 - 143Substance Abuse training, 285, 286fig Alessi, S. M., 69

Allen Interactions, 311	Blended training
Allen, M. W., 5, 105, 215	improving performance environment
Alpha SAM (Successive Approximations	with, 54–55
Model) version, 322	improving training outcomes with,
Andersen, D., 86	54-55
Anderson, L., 370	Bloom, B., 368, 375
ARC's Motivational Model, 368,	Bloom's taxonomy, 368, 370, 375
372-373	Boggs, D., 23, 25
Attention	Bonk, 31
as dimension of human motivation,	Boring e-learning instruction
372 <i>t</i>	as being the most expensive training,
Keller's ARC's Motivational Model on,	22fig
373	as not being effective instruction, 20
Authentic tasks	why it is deemed "acceptable," 20–21
Earthquake epicenter e-learning	Brain research
instruction, 37fig	instructional design guided by theory
importance of having learners perform,	and, 374–375
192	problems when applying to
POST LERT First Responder	instructional design, 69–71
training, 193–197 <i>fig</i>	providing insights for teaching, 1
Authorware	Brains forming learning experience
earthquake epicenter e-learning	design, 307, 307 <i>t</i>
instruction created using, 39	Breuer, J., 332, 333
WorldTutor, 228–229, 231	Bruyckere, P. D., 2, 3, 287
ZebraZapps, 39, 218–219fig, 220fig,	Business problems
223, 223fig	disguised competency problems,
Autonation interactive sales scenario,	47–50
205-208 fig	importance of identifying the "real," 50
"Awareness goals," 99–100	nonperformance, 45
Tivareness goals, 77 Teo	performance environment, 53–55
Behavior, effect of motivation on, 124fig	performance-related, 43–45
Behavior change	understanding that most are
creativity role in e-learning projects	performance problems, 45–46
for, 68–69	Business problem solving
incentives for, 51–53fig	e-learning opportunities for, 46 <i>t</i>
See also E-learning goals; Outcomes	understanding limitations of training
Bente, G., 332, 333	for, 45–47
Bereiter, C., 375	See also Training
Berra, Y., 100	See uso Training
Beta SAM (Successive Approximations	Carlzon, J., 49
Model) version, 323	Carnegie Mellon University, 86
Bio/CMI, 214	Cavalier, R., 86
Biology Learning Demonstration	CCAF (context, challenge, activity, and
Center, 214	feedback) framework
Blakemore, S., 1	four basic steps in the, 101–102
Diamoillo10, 0., 1	1041 basic steps in the, 101 102

gamification development using, Common instruction paradigm, 158fig 365 - 366Competence. See Performer competence instructional interactivity using the, Computer-assisted instruction (CAI), 174 238-264 instructional success strategy of, Computer History Museum, 8 101 - 103Computer-managed instruction (CMI), parallel uses for entertainment games 208, 209 and SLGs, 346t Confidence POST LERT First Responder training as dimension of human motivation, using, 193–197 fig research findings on e-learning and, 8 Keller's ARC's Motivational Model on, See also Activity; Context; Feedback Challenge Constructivism theory, 69–70 autonation interactive sales scenario, Content 205 - 206e-learning and type of, 86 characteristics of good and poor e-learning equation and presentation interaction, 253t-254tof, 123, 125, 126–127 Cooking with Flair training, 166 game rules and strategies as learning, Expedia phone-based customer service 335 - 338guide learners to appropriate, 76, 78 training, 138, 139*fig* instructional interactivity component learner-constructed, 35–36 of, 238, 240fig, 247fig, 249–250, navigation that lets learners see 253t - 254torganization of, 216, 220–221, **2**30fig In Their Virtual Shoes training, 294 NYU Medical Center ICIS training, navigation that lets learners see the, 216-219fig, 226-228fig 272, 273fig POST LERT First Responder performance focus versus, 112 training, 193, 194*fig* select the right one for each learner, POST LERT Recognizing and 132t, 156-170Reporting training, 288 short-order chef training, 150 providing learners with, 132t, 146–147 Content classification Railroad Safety for Professional instructional strategies for each type Drivers training, 247 fig of, 369t short-order chef training, 150–151 Merrill's work on, 368–369 on size fits all versus individualized, SLGs application of, 369–370 Context Substance Abuse training, 285 autonation interactive sales scenario, 205 supply chain training, 183 trapdoor hints model on, 269 characteristics of good and poor What Does Glue Stick? training, 187, interaction, 253t Cooking with Flair training, 166 186fig Who Wants to Be a Miller? training, Expedia phone-based customer service 278 training, 138 Clark, R., 367 instructional interactivity component Cognitive skill-building, 86 of, 238fig, 239fig, 245fig, 249, 253t

common design processes that may Context (Continued) In Their Virtual Shoes training, 293 prohibit, 71 knowledge delivery versus authentic, the divergence and utility nature of, 68 of e-learning projects for behavior learning sequences and, 178 change, 68–69 motivating learning and transfer skills instructional design as art versus using, 175 - 179tscience debate over, 68-69 novelty versus reality of technology-led Delay judgment instruction instruction and, 172–175 asking learners why their answers are NYU Medical Center ICIS training, correct, 204fig autonation interactive sales scenario POST LERT First Responder example of, 205–28fig training, 193 motivating learners by, 132t, POST LERT Recognizing and 201-208 figReporting training, 289fig valuable U-turns to provide learners, Railroad Safety for Professional 202 - 204Drivers training, 245fig Design. See E-learning instructional Substance Abuse training, 284 design supply chain training, 183 Design specs trapdoor hints model on, 269 functional prototypes preferred over, use an appealing, 132t, 173fig-191302,303-304What Does Glue Stick? training, 187, true instructional interactivity not 184fig possible with, 305 Who Wants to Be a Miller? training, Discovery learning model 278, 279fig description of the, 287 See also CCAF (context, challenge) POST LERT—Recognizing and activity, and feedback) framework Reporting training using the, Control Data Corporation, 12, 56–57 288–289fig, 290fig Cooking with Flair training reusability of the, 289, 292 context, challenge, activity, feedback Disguised competency problems used in, 166 outdated product designs, 48 "Do the Dip!" module of the, poor morale, 49 167fig-169fig tarnished reputation, 49 test-and-tell method used in, 166–170 turnover and absenteeism, 49 Corbett, A. T., 370 undercapitalized operations, 48 Corrective Feedback Paradigm (CFP) unreliable equipment or tools, 49 description of the, 277–283 Docebo, 89 not for all instructional needs, "Do the Dip!" test-and-tell example, 282 - 283167fig-169fig reusability of the, 282 Duffy, T. M., 70 spaced practice using the, 277 fig Who Wants to Be a Miller? training Earthquake epicenter e-learning using the, 278–283 instruction Covey, P., 86 experience versus presentation example Creativity in, 36-39

learner activity in authentic context delivering better learning with less, example of, 37fig learner experience teaches the optimal training project to budget and, 19fig principle example of, 38fig let the learner play example of, 38fig The e-learning dream, 18 page-turner versus page-turner with E-learning equation, 122–123, 125, 126 - 127question examples of, 36fig EDUCAUSE, 5 E-learning failure change is necessary to avoid, 42-43 Einstein, A., 110, 122 E-learning counterfeit successes as driving, 30 as being about individual and the cycle of, 20fig, 21 organizational success, 19–20 failing to define realistic goals as as being fun, 332 reason for, 29 blended training solutions to improve, to-do-list projects to avoid, 30–33 54 - 55undercover operations as driving, 30 delivering lower costs and better why we do things that we know will learning, 11–12 result in, 62 high attribution rate of learners, 70, See also e-learning failure; e-learning success how it fits in with effective training, E-learning goals beware of awareness goals," 100 learner motivation to learn versus to match instructional strategy to learn via, 128–129 outcomes and, 99 smart, 87–89 problem of failing to define realistic, 29 you have choices in, 86–87 process of transforming, 30fig See also Instructional interactivity; smart e-learning goal to change Training; True training stories behavior, 88t E-learning applications typical ineffective strategy to reach buyer alert regarding purchase of, performance goals, 99t understanding what really matters in 77 - 78training, 32–33 limited emphasis on learner motivation in, 77 fig See also Behavior change; Outcomes E-learning benefits E-learning guide for executives anticipated, 174 design versus technology, 74–75 attributes of good e-learning and, differentiating the good and the bad, 23t - 24tcompetitive positioning organization three priorities for training success, 76 - 82infrastructure advantages as, 27 fig understanding e-learning as mean to strategic advantages as, 25t-26t training success, 81–82 tactical advantages as, 26t-27tE-Learning Guild's DevLearn training delivery advantages as, 27t conference (2009), 334 E-learning costs E-learning instruction boring instruction is too expensive, boring, 20–21, 22fig 22fig the failure cycle of, 20fig, 21

prerequisites to, 43 E-learning instruction (*Continued*) optimal training project budget for, unrecognized contextual factors, 42 Emotion-arousing experiences, 103–104 practicality of delivering effective, **Employees** 23 - 27tpoor morale by, 49 rationale for reduced quality of, 21–22 providing incentives for good reviewing the different perspectives of, performance, 51–53fig turnover and absenteeism of, 49 the success cycle of, 18, 19fig See also Learners understanding that entertaining Enhanced drill-and-practice model doesn't equate good, 21 Corrective Feedback Paradigm (CFP) See also Instructional design type of, 277–283 E-learning instruction perspectives description of, 277 as instructional approach instead of EPSSs (electronic performance support delivery platform, 5–6 systems) lack of e-learning expertise, 6 description of, 258 learning games, 8 instructional interactivity versus, low expectations of e-learning, 5 258−259₺ new mobile delivery options, 6-7instruction applications of, 260–264 prevalence of e-learning, 4–5 Equipment problems, 49 social learning, 9 Evaluation E-learning partnerships of entertaining but ineffective training, learner participation in, 88t, 92 management and e-learning of functional prototypes, 313 developers, 88t, 89–91 Kirkpatrick's four-level model of, 21 subject-matter experts (SMSs) measuring outcomes as part of, 31 participation in, 88t, 91-92SAM iterative design phase, 314fig, E-learning solutions 317 - 320Autonation interactive sales scenario, SAM iterative development phase, 205-208 fig316fig, 320–322 Operation Lifesaver's Railroad Safety Successive Approximations Model for Professional Drivers training, (SAM) component of, 311fig-312244–248fig Executives POST ALERT First Responder guide to good e-learning for, 74–82 training, 193-194 needed for e-learning design, 59t E-learning success See also Management checklist for doing the right thing for, Executive's e-learning guide design versus technology, 74–75 the cycle of, 18, 19fig differentiating the good and the bad, design as the means to, 64 essential resources for, 57–62 73 - 74how counterfeit successes drive three priorities for training success, failures, 30 understanding e-learning as mean to list of some of the factors for, 41 pillars of, 91fig training success, 81–82

POST LERT First Responder Expedia phone-based customer service training, 138–139fig training, 193 Expertise POST LERT Recognizing and Reporting training, 289, 291fig challenges with simulated outcomes provide learners with intrinsic, 132t, for created, 85 comparing tell-and-test to the 198 - 200Railroad Safety for Professional test-and-tell methods to achieve, Drivers training, 247–248fig 165-170, 181practice as necessary for developing, 84 real-world consequences versus didactic, 114 subject-matter experts, 59t, 88t, 91–92 Extrinsic feedback, 199t short-order chef training, 151 Substance Abuse training, 285, 287 fig Extrinsic learning games supply chain training, 183 advantages of, 360 trapdoor hints model on, 270 building on, 362 What Does Glue Stick? training, 187, description of, 359–360 184fig-190fig disadvantages of, 361–362 Who Wants to Be a Miller? training, drill and practice versus instruction 280 - 282using, 362-363See also CCAF (context, challenge, game board of, 360, 361fig activity, and feedback) framework Jeopardy (TV game show) example of, Field Guide (Sites and Green), 105 360, 362 First Principles of Instruction, 368, Outcome Rules of, 361, 362 369t - 370pros and cons of, 363t Functional prototypes Rules of Play of, 361 designing learning experiences using, See also Intrinsic learning games 305, 308 evaluating your, 313 Failure. See e-learning failure SAM iterative design phase, 314fig, Feedback 317 - 320autonation interactive sales scenario, 206, 207fig Gagné, R., 368, 373 characteristics of good and poor Gagné's Taxonomy of Learning interaction, 254t Outcomes, 368, 373–374 Cooking with Flair training, 166 Game rules Expedia phone-based customer service as content for learning, 335, 337 training, 137, 141*fig* how good games have good, 334–335 extrinsic, 199t tic-tac-toe, 337 instructional interactivity component See also Outcome Rules; Rules of Play of, 238, 241fig-242fig, 247-248fig, Games 251-253, 254tCCAF applied to, 346tIn Their Virtual Shoes training, 295fig the fundamentals of a good, 334 key performance indicators (KPIs) getting the fun back into learning providing authentic, 184fig using, 330–331, 347–354 NYU Medical Center ICIS training, the ideas that learning can be a, 331 272 rules and strategies of good, 334–338

Games (Continued)	IBM typewriters, 171fig-172
Sunny side Grill, 348–354	ICIS training. See NYU Medical Center
tic-tac-toe, 334–335, 337	ICIS training
See also Learning games; Serious	ICONOS, 187
Learning Games (SLGs)	Incentives
Games of chance	different types of, 52
learning in, 342fig, 343	management and training partnership
as nonstrategic game, 344	for success of, 53fig
Games of skill, 342fig	performance improvement by
Game strategies	combining penalties with, 55–56
description of, 336	Individualization
Serious Learning Games (SLGs), 336	e-learning as being about
Sunny Side Grill game, 353, 354	organizational and individual
tic-tac-toe, 337	success, 19–20
Game types	practical solutions for achieving
games of chance, 342fig, 343	instruction, 164–170
games of skill, 342fig	selecting the right content for each
learning in strategic games,	learner, 132 <i>i</i> , 156–170
345fig-347fig	on size fus challenge all versus, 114
memory games, 342fig, 343	Individualization continuum
strategic versus nonstrategic games,	common instructional design paradigm
344–345 <i>t</i>	rating on, 158fig
Gamification	Individualized instruction paradigm
caution about using, 367	rating on, 161–164
CCAF framework used for, 367	remedial instruction paradigm rating
issues to consider for using, 358-359	on, 160–161fig
learning through, 365-367	selective instruction paradigm rating
ROI (return on investment) of, 359fig	on, 159–160
serious e-learning versus, 333	Individualization practical solutions
Global positioning data (GPS), 7	comparing tell-and-test to the
Gold SAM (Successive Approximations	test-and-tell methods, 165–170,
Model) version, 323	181
Green, A., 105, 324	fixed content, variable learning,
Gunter, G. A., 368	164–165
	fixed learning, variable time and
Hawking, S., 110	content, 165
Hippocratic oath, 110	fixed time, variable learning, 164
Homeland Security. See POST	Instruction
LERT—Recognizing and Reporting	complexity of effective, 64–65
training	EPSSs (electronic performance
Hulshof, C. D., 2	support systems) applications for,
Human resources	260–264
executives as essential, 59t, 73–82	extrinsic games drill and practice
list of those required for e-learning	versus, 362–363
success, 59t	interactive, 235–260

novelty, 172–175, 181–191 Bloom's taxonomy, 368, 370, 375 See also Technology-led instruction cognitive activity and observable Instructional design performance, 370t art versus science debate over, 68–69 Gagné's Taxonomy of Learning challenges of designing learning Outcomes, 368, 373–374 experiences, 298-302 Keller's ARCS Motivation Model, 368, checklist for what should be included 372 - 373in, 63 Merrill's First Principles of Instruction complexity of effective, 64–65 and content classification, 368, 369t earthquake epicenter e-learning Sugrue's Content-performance Matrix, instruction example of, 36–39 370 - 371essential resources to support, 57–62 theory and research as a guide for how it can heighten or stifle design, 374–375 motivation, 125-129 Instructional interactivity learner-constructed content is not activity component of, 238, substitute for, 35-36240fig-241fig, 247-248fig, 250-251, as the means to success, 64 254tmotivation related to priorities of, 124 CCAF framework applied to, 238–265 potential problems when applying challenge component of, 238, 240fig, research results to, 69–71 247 fig. 249 - 250, 253t - 254tas requiring study and practice for context component of, 238fig, 239fig, excellence, 13 245 fg, 249, 253t selling it to the learner, 127 definition of, 237, 264 take a "design backward" approach to, e-learning environments and rehearsal through, 236–237 taking a pragmatic approach to, 71feedback component of, 238, technology versus the, 74-75 241fig-242fig, 247-248fig, 251-253, theory and research as a guide for, 374 - 375good versus poor interaction See also E-learning instruction; components, 253t-254tInstructional design natural learning environments of, 236 Instructional designers pseudo, 255–259t "A-ha!" experiences of, 201 questioning versus, 260–264 design goal set by *Manifesto* for, 118 as the supernatural power of game-thinking vs. instruction-thinking e-learning, 236 by, 367 - 368three-point checklist for good, 255t Hippocratic oath for, 110 *See also* E-learning quality obligations of, 110–111 Instructional interactivity examples Instructional design paradigms In Their Virtual Shoes training, common, 158fig 293 - 296individualized, 161fig-164 NYU Medical Center ICIS training, interactivity, 267–296 272 - 276remedial, 160fig-161 Operation Lifesaver Railroad Safety selective, 159fig – 160 Instructional frameworks training, 244–253

Instructional interactivity examples e-learning and "everything has changed," 4-10 (Continued) POST LERT—Recognizing and implications of new technologies, 9–10 Reporting training, 288–292 the "nothing has changed," 3-4 Insurance plans training story, 51 Substance Abuse training, 283–287 fig Integrated prototypes, 320 Supervisor Effectiveness training, Interactivity. See Instructional 235 - 241interactivity Who Wants to Be a Miller? training, Internal Revenue Service training, 86 278 - 283In Their Virtual Shoes training, Instructional interactivity paradigms discovery learning, 288-292 293–296, 295fig Intrinsic feedback enhanced drill and practice/Corrective examples of extrinsic versus, 199t Feedback Paradigm (CFP), 276–283 overview of, 363–365 problem-solving investigation model, providing learners with, 132t, 198–200 283 - 287 figIntrinsic learning games storytelling model, 292–296 action-consequence relationships in, task model, 271–276 363, 364fig trapdoor hints model, 268–270 context situations and actions in, 363, Instructional objectives 364,5g acceptable verbs for behavioral, 136t description of, 359 airline mechanics training example of, Outcomes Rules of, 363 142 - 143Rules of Play of, 364 components of quality, 135fig-136 See also Extrinsic learning games Expedia's example of meaningful and Investigation model memorable, 138–141fig description of the, 283 how to better write motivating 136 Substance Abuse training using the, motivating learners through, 133–135 284–287 fig See also Learning Islam, K., 126 Instructional strategies adapting e-learning to primary Jeopardy (TV game show), 360, 362 performance outcomes, 85 fig Jonassen, D. H., 70, 175, 347 consideration of task and learner readiness, 85fig Kapp, K., 332, 359, 367 fitting to targeted outcomes, 83–87 Keller, J. M., 76, 368, 372–373 Merrill's content classification and Keller's ARC's Motivational Model, 368, corresponding, 369t 372 - 373performance goals and typical Kenny, R. F., 368 ineffective, 99t Key performance indicators (KPIs), Seven Simple Success Strategies, 184*fig* 97 - 107Kirkpatrick's four-level model of training types of, 84fig evaluation, 21 Instructional systems design (ISD). See Kirschner, P. A., 2 ADDIE model (or ISD) Knowledge delivery vs. authentic Instruction perspectives contexts, 113

Koedinger, K. R., 370 Korn, E. R., 86 Krathwohl, D., 370 KTCA-TV's Newton's Apple (public TV show), 187–191 Learner-constructed content don't discard good instructional design for, 35-36increased increase in, 35 Learners attendance versus engagement by, 113 comparing typical and serious e-learning for, 112–113 don't baby your, 132*t*, 146–147 ensuring they are motivated to learn, 76 - 77guide them to appropriate content, 76, having them perform multistep tasks, 132t, 192–197fig high attrition rates of e-learning, 70, 126 placing emphasis on motivation of, 77#g putting them at risk as learning motivator, 132t, 144t-155recent, 59t selecting the right content for each, 132t, 156-170selling excellent instruction to the, 127 smart e-learning partnership with, 88t, strategy consideration of task and readiness of, 85fig See also Employees; Motivation Learning contexts to stimulate, 178t examining the differing perspectives game rules and strategies as content for, 335 - 338games for getting the fun back into, 330-331, 347-354 getting the fun back into, 330–331 extrinsic games, 359–364t

the ideas that it can be game, 331 practice is necessary to, 85 social, 9 what we know about, 3 See also Instructional objectives; Outcomes Learning audience autonation interactive sales scenario, Operation Lifesaver's Railroad Safety for Professional Drivers training, POST LERT First Responder training, 193 Learning environments interactivity in the natural, 236 private versus social, 145–146 Learning experiences advisory on creating M&M&M, 79 challenges of designing, 298-302 characteristics of quality, 109–110 emotion-arousing, 102–103 howe-learning can deliver lower costs and better, 11–12 Successive Approximations Model (SAM) to create, 3-4See also Meaningful, memorable, motivational (M&M&M) learning experiences Learning experiences design ADDIE model (or ISD) for, 104–105, 299-301, 302, 303, 309 alternatives for, 308 brainstorming for, 307, 307*t* constraints challenge of, 298–299 functional prototypes for, 305 insights provided by unsuccessful, 308 prototypes for, 305, 308 quick iterations to explore multiple design ideas for, 306 See also SAM (Successive Approximation Model) Learning games "edutainment," 8

Learning games (Continued)	Mastery. See Expertise
intrinsic games, 359, 363-365fig	The Matrix (film), 1
instructional implications of, 8	Mayer, R. E., 287
overview of, 357–358	Meaningful, memorable, motivational
ROI (return on investment) of,	(M&M&M) learning experiences
358-359	advisory on importance of designing,
types of, 359–365fig	79
See also Games; Serious Learning	how e-learning can provide, 81-82
Games (SLGs)	instructional design of, 80–81
Learning Management Systems (LMSs)	providing learners with, 76, 78–82
Bio/CMI, 214	using novelty to create, 146fig-190fig
description of, 214–215	See also Learning experiences
services offered to learners, 215	Media prototypes, 320
See also Navigation	Meleca, C. B., 215
Learning objects. See Reusable learning	Memory games
objects (RLOs)	description of, 342 fig
Learning perspectives	learning in, 343 <i>fg</i> – 344
e-learning and "everything has	as nonstrategic game, 344
changed," 4–10	You Don't Know Jack and Jeopardy
implications of new technologies, 9–10	examples of, 342fig, 344
the "nothing has changed," 3–4	Merril, D., 368, 369t-370
Learning research	Merrill's First Principles of Instruction
instructional design guided by theory	and content classification, 368,
and, 374–375	369t-370
on potential of learning games, 8	Mico, B., 70
providing insights for teaching, 1	Misguided training story, 44
Leaving ADDIE for SAM: An Agile Model	Mitzel, H. E., 214
for Developing the Best Learning	M-learning
Experiences (Allen and Sites), 105, 324	impact of new mobile delivery options
Leaving ADDIE for SAM Field Guide	for, 6–7
(Sites and Green) 324	mobile performance support versus, 7
	Mobile delivery
Mager, R., 76	common questions and answers
Magic Keys. See Motivational Magic	about, 7
Keys	perspectives on impact of, 6–7
Malone, T. W., 76	Moments of Truth (Carlzon), 49
Management	Moore, 375
incentives for good performance role	Motivation
of, 53fig	dimensions of human, 372t
partnership between e-learner	effect on behavior by, 124fig
developer and, 88t, 89-91	e-learning equation and, 122-123,
See also Executives	125, 127–128
Manhattan Associates, 183	ensuring learner's, 76-77
Manifesto. See The Serious eLearning	how e-learning design can heighten or
Manifesto	stifle, 125–129

instructional design priorities related to, 124-125Keller's ARC's Motivational Model on, 368,372-373to learn versus motivation to learn via e-learning, 128–129 perception and, 123–124 persistence for learning tied to, 124 placing emphasis on learner, 77fig See also Learners Motivational learning experiences, 81 Motivational Magic Keys 1: build on anticipated outcomes, 132t, 133 fig - 1432: put the learner at risk, 132t, 144t - 1553: select the right content for each learner, 132t, 156–170 4: use an appealing context, 132t, 171fig=191fig 5: have the learner perform multistep tasks, 132t, 192–197fig 6: provide intrinsic feedback, 132t, 198 - 2007: delay judgment, 132t, 201–209fig Multistep tasks importance of performing authentic motivating learners with, 132 192-197 figSupervisor Effectiveness training use of, 242fig

Nass, C., 146

Myers, G. A., 215

National Food Service Management Institute

Cooking with Flair training of, 166–170

Who Wants to Be a Miller training of, 278–283

National Science Foundation's Biology Learning Demonstration Center, 214

Navigation

additional learner-interface ideas, 226t description and function of, 212–213 interactivity versus, 257–258 reusable, 213–214 services for learners, 212–213 WorldTutor, 228, 232 ZebraZapps, 218, 219fig, 220fig, 223, 223fig

See also Learning Management Systems (LMSs)

Navigational metaphors description and function of, 232–233 simplicity is best for, 233–234 some concerns about, 233

Navigation imperatives

- 1: let learners see what's here, 216–219 fig
- 2: let learners see how the content is organized 216, 219–221
- 3: let learners see where they are, 216, 222fig-223fig
- 4: let learners go forward, 216, 222–223
- 5: let learners back up, 216, 224
- 6: let learners correct their errors, 216, 225

Navigation (NYU Medical ICIS training)

- 1: let learners see what's here, 228fig, 229,
- 2: let learners see how the content is organized, 229–230fig
- 3: let learners see where they are, 230, 231 fig
- 4: let learners go forward, 230-231
- 5: let learners back up, 231
- 6: let learners correct their errors, 231–232fig

Newton's Apple's Why Does Glue Stick? series, 187–191

Nonperformance problems e-learning opportunities for improving, 46*t* examples of, 45

Nonperformance problems (*Continued*) it's expensive, 33 understanding limitations of training it's risky, 34–35 to solve, 45-47it's slow, 34 Operation Lifesaver training. See Nonstrategic games description of, 344 Railroad Safety for Professional games of chance as, 342fig, 343, 344 Drivers training strategic versus, 344–345t Outcome Rules utility for learning, 345t description of, 335, 336 extrinsic games, 359, 360 Norris, B., 12fig Novelty instruction fund from discovering the, 348 creating memorable experiences using, games of chance, 343fig intrinsic learning games, 363–365 182fig=191 memory games, 343fig drawing learner's attention using, 182 Serious Learning Games (SLGs), 338, short-lived nature of, 173 supply chain training example of, 183 339fig strategic game level-ups, 347fig technology-led instruction reality Sunny Side Grul game, 351–352 versus, 172–175 when it can be a valuable tool, See also Game rules 181 - 191Outcomes Why Does Glue Stick?, 187–191 adapting e-learning to primary NYU Medical Center ICIS training performance, 85fig navigation of the, 228-232 blended training to improve task model used for interactivity of the, e-learning, 54–55 272 - 276creating expertise and challenges with NYU Medical Center ICIS training simulated, 84 e-learning equation and edification (or navigation 1: let learners see what's here, 229, e-learning outcomes), 122, 124, 127 - 128238fig 2: let learners see how the content is e-learning strategies consideration of organized, 229, 230 fig task and learner readiness, 85fig 3: let learners see where they are, 230, fitting strategy to targeted, 83–86 Gagné's Taxonomy of Learning 232*f*ig 4: let learners go forward, 230–231 Outcomes, 368, 373–374 5: let learners back up, 231 match instructional strategy to desired, 99 6: let learners correct their errors, 231–232fig measuring e-learning, 31 motivating by building on anticipated, Objectives. See Instructional objectives 132t, 133fig-143 Ohio State University, 214–215 See also Behavior change; E-learning On-the-job training goals; Learning costs of, 34 Outdated product design problem, 48 e-learning failure due to undercover, Page-turning mistake, 111 On-the-job training costs Paradigms. See Instructional design illustration of the stacked, 34fig paradigms

Part-task training, 178	POST LERT First Responder training,
PCD3 system, 56	193–197fig
Penalties	POST LERT Recognizing and
performance improvement by	Reporting training, 288–292, 291fig
combining incentives with, 55	Practice
when desired performance is	Corrective Feedback Paradigm (CFP)
unwittingly penalized with, 56	spaced, 277fig
Perfetti, C., 370	extrinsic games instruction versus drill
Performance environment	and, $362 - 363$
blended training solutions to improve,	necessary to learning, 84
54–55	onetime events versus spaced, 114
using training to fix the, 53-55	putting learners at risk during,
Performance goals	147–149
adapting e-learning to outcomes of	short-order chef training, 150-154
primary, 85fig	Pre-flight safety checks training story, 4
In Their Virtual Shoes training, 293	Presentations
Operation Lifesaver's Railroad Safety	earthquake epicenter e-learning
for Professional Drivers training, 244	example of experience vs., 36–39
typical ineffective strategies for	emotion-arousing experiences instead
reaching, 99t	of, 103–104
Performance improvement	interactivity versus, 257–258
combining penalties with incentives	page turning, 111
for, 55–56	Private learning environments, 145–146
the possibilities of training for, $50-51$	Problem-solving investigation model
providing incentives for, 51–53fig	description of the, 283–284
Performance problems	Substance Abuse training using the,
e-learning opportunities for solving	284–286fig
46 <i>t</i>	Project planning tasks, 317–319
misguided training as traditional	Prototypes
approach to, 44–45	functional, 305, 308, 313, 321
performer competency as cause of, 43	integrated, 320
Performance supervisors, 59t	media, 320
Performer competency problems	SAM iterative design phase, 314fig,
as cause of poor performance, 43	317–320
e-learning opportunities for	special-purpose, 320
improving, 46t	Pseudo interactivity
understanding who needs training to	caution regarding, 255–256
improve, 43–45	EPSS versus instructional interactivity
when business problems are disguised	258-259t
as, 47–50	navigation versus interactivity form of
Performers (untrained) testing, 59t	257-258
PLATO and the lights story, 121–122	presentation versus instruction form
PLATO system (1970s), 8, 12, 56, 145,	of, 256–257 <i>t</i>
215	Psychomotor skill building, 86
Poor morale problem, 49	Pure Performance Alternative, 370–372

Questioning vs. interactivity, 260–264 Reusable navigation, 213–214 Quinn, C. N., 6 Roland Berger Strategy Consultants, 5 Rules of Play Railroad Safety for Professional Drivers description of, 335, 336 training extrinsic games, 359–361 activity component of interactivity, game of strategy and role of, 337 247-248 figgames of chance, 343fig background of, 244–245 intrinsic learning games, 363 challenge component of interactivity, memory games, 343fig 247*fig* Serious Learning Games (SLGs), 338, context component of interactivity, 339fig 245f1g strategic game level-ups, 347fig feedback component of interactivity, Sunny Side Grill game, 350–351 247-248 figSee also Game rules Recent learner's design role, 59t Reeves, B., 146 SAM iterative design phase Relevance additional design task during the, 319 guidelines for additional design tasks as dimension of human motivation, during, 320 Keller's ARC's Motivational Model on, illustrated diagrams of the, 314fig, 3 1 7 jig Remedial instruction paradigm, overview of the, 317 project planning task during the, 160ftg-161 Repurposing e-learning materials, 60–62 317 - 319Reputation problem, 59 prototypes task during the, 320 Research. See Learning research SAM iterative development phase design proof task during the, 322 Resources caution against repurposing e-learning illustrated diagram of the, 321fig materials, 60-62 overview of the, 316 list of human, 59t SAM preparation phase reusable learning objects, 61t, 65-67illustrated figure of the, 314fig understanding the essential, 57–58 overview of the, 315–316 Reusability the Savvy Start, 316, 318 Corrective Feedback Paradigm (CFP), SAM (Successive Approximations 282 Model) ADDIE model compared to, 104–105, discovery learning model, 289, 292 problem-solving investigation model, 285 alpha version of the, 322 reusable navigation, 213–214 applying the postulates of successive task model, 275–276 approximation to the, 311 beta version of the, 323 trapdoor hints, 270 Reusable learning objects (RLDs) building learner-centered learning description and advantages of, 65-67 experiences using, 3-4description of, 70–71, 104–105, pros and cons of, 61t specificity versus applicability of, 67 311 - 312

design component of the, 311fig,	Serious Learning Games (SLGs)
312-313	application as learning game, 357
develop component of the, 311fig, 313	CCAF applied to, 346t
evaluate component of the,	examining the potential of, 8
311fig-312	Gagné's Taxonomy of Learning
getting help and additional resources	Outcomes value for, 368, 373–374
on, 324	the intrigue of using, 376–378
gold release of the, 324	Keller's ARC's Motivational Model
illustrated diagram of, 104fig, 311fig	value for, 372–373
remember that no e-learning	Outcome Rules of, 338, 339fig
application is perfect when using,	ROI (return on investment) of,
302-303	358–359fig
as simple success strategy, 104-105	Rules of Play of, 338, 339fig
three-phases of the, 314fig-322	strategies of, 336
See also Learning experiences design;	Sugrue's Content-performance Matrix
Simple Success Strategy	for design of, 370–372fig
SAM (Successive Approximations	Sunny side Grill, 343–354
Model) phases	See also Games; Learning games
illustrated diagram of the, 314fig	Sheikh, K., 86
iterative design, 314fig, 317-320	Short-order chel training, 150–151
iterative development, 314fig, 320–322	Simple Success Strategy
preparation, 315–317	1: asl, would you want to learn from
Sandweiss, J. H., 86	this?, 97–98
Satisfaction	match instructional strategy to
as dimension of human motivation,	outcome goals, 99
372t	3: challenge awareness goals, 100
Keller's ARC's Motivational Model on,	4: design backward, 101
372–373	5: think context, challenge, activity,
Scardamalia, M., 375	feedback (CCAF), 101-103
Selective instruction paradigm,	6: think emotion-arousing experiences
159fig-160	103-104
Serious e-learning	7: use the Successive Approximation
basic principles of, 112, 115–117	Model (SAM), 104fig-106
building the, 355	See also SAM (Successive
comparison of typical e-learning and,	Approximations Model)
112–114	Sites, R. H., 105, 324
the essences of, 333	Skills
gamification versus, 333	cognitive, 85
The Serious eLearning Manifesto	psychomotor, 86
basic principles of serious e-learning in	soft, 86
the, 112, 115–117	Skills hierarchy
description of the, 74	don't start instruction at the bottom of
design values listed in the, 112–114	the, 132 <i>t</i> , 179–180
providing a goal to strive for	playing poker's partial, 181fig
instructional designers, 118	Skills transfer, 175–177 <i>t</i>

Smart e-learning	leadership required for organizational
critical elements of, 87–88t, 89–92	adoption of the, 309-310
importance of engaging in, 87, 89	Sugrue's Pure Performance Alternative,
Smart e-learning elements	370–371 <i>t</i> , 374
adequate financial investment, 87, 88t	Sugrue, B., 370
goal is to change behavior, 87, 88t	Sunny Side Grill game
necessary partnerships, 88t, 89	advanced level strategies, 354
Social learning, 9	challenge levels of the, 349–350,
Social learning environments, 145–146	351fig
Soft skill building, 86	game board of the, 350fig
South Dakota State University, 215	learning aids, 350, 352fig
Special-purpose prototypes, 320	Level 1 strategies, 353
Storyboards	level-ups of, 353–354
description and applications of,	Outcome Rules, 351–352
304–305	overview of the, 349
functional prototypes preferred over,	Rules of Play, 350–351
302, 305fig – 304	Super Mario Bres. (game), 147–148fig
true instructional interactivity not	Supervisor Effectiveness training
possible with, 305	activity component of interactivity,
*	240 -241fig
Storytelling model	analysis of the, 243-244
description of, 292	challenge component of interactivity,
In Their Virtual Shoes training using	240fig
the, 293–296	context component of interactivity,
reusability of, 295–296	239fig
Strategic games	feedback component of interactivity,
learning in, 345fig-347fig	241fig-242fig
level-ups structure of, 346–347 fig	introduction to, 238
nonstrategic versus, 344–345t	Supply chain training, 183
Strategies. See Game strategies;	Suzuki, K., 76
Instructional strategies	Szabo, M., 214
Subject-matter experts	
e-learning partnerships with, $88t$,	Target audience
92-93	autonation interactive sales scenario,
needed for e-learning design, 59t	206
Substance Abuse training, 283–287fig	Operation Lifesaver's Railroad Safety
Successive approximation method	for Professional Drivers training, 244
ADDIE model compared to, 104–105,	POST LERT First Responder
309	training, 193
advisory on finding champions to	Tarnished reputation problem, 49
promote, 310	Task model
applying postulates to the SAM,	description of the, 271
310–311	NYU Medical Center ICIS training
illustrated diagram of the, 301 fig	example of the, 272–276
introduction to the, 301–305	reusability of, 275–276

Tasks blended, 54-55Earthquake epicenter e-learning don't drink the Kool-Aid on instruction, 37 fig learner-constructed content for, instructional strategy consideration of, 35 - 36how e-learning fits in with effective, 85fig motivating learner with perform 83 - 94multistep, 132t, 192–197fig incentives for good performance role POST LERT First Responder of, 53fig measuring outcomes of the, 31 training, 193–197 *fig* risk of part-task training, 178 on-the-job, 30, 33–34*fig* Supervisor Effectiveness training use risk of part-task, 178 of multistep, 242fig story on misguided pre-flight safety Taxonomy of Learning Outcomes, 368, checks, 44 373 - 374understanding what really matters in Teacher design role, 59t the, 32 - 33See also Business problem solving; Technology-led instruction computer-assisted instruction (CAI), E-learning; specific training examples Training solutions computer-managed instruction (CMI), autonation interactive sales scenario, 214, 215 205 - 208 hge-learning design versus the, 74–75 Operation Lifesaver's Railroad Safety implications of, 9–10 for Professional Drivers training, novelty versus reality of, 172–175 244-248 figST ALERT First Responder the typing ball syndrome, 171 fig - 172training, 193-194 See also Instruction Training success priorities Tell-and-test method, 165–166t 1: ensuring learners are highly Test-and-tell method motivated to learn, 76–78 comparing tell-and-test method to, 2: guide learners to appropriate 165 - 166tcontent, 76, 78 cooking training example of, 166–170 3: provide meaningful and "Do the Dip!" modele using the, memorable learning experiences, 76, 167fig=169fig 78 - 82starting context at the end using the, Trapdoor hints model, 268–270 Trollip, S. R., 69 Thalheimer, W., 21, 31, 79, 146 True training stories on inadequate training application of 3M Company, Inc., 187 Tic-tac-toe game ADDIE model, 303 description of, 334–335 misguided pre-flight safety checks rules of, 337 training, 44 "ridiculous expectations" of insurance strategies of, 337 To-do-list project problem, 30–33 plans training, 51 Training unwittingly penalizing desired attempting to solve performance pertormance, 56 problems with misguided, 44–45 See also E-learning

Turnover problem, 49 The typing ball syndrome, 171fig-172

Undercapitalized operations problem, 48 Unreliable equipment or tools problem, 49 Untrained performer design role, 59*t*

Vick, E. H., 368

Wheel of Fortune (TV game show), 360
Who Wants to Be a Miller? training, 278–283
Who Wants to Be a Millionaire (TV show), 305

219fig, 220fig template with curprogress reporting 223fig

Why Does Glue Stick? novelty instruction, 187–191 Wolf, S. L., 86 WorldTutor, 228, 231fig, 232

ZebraZapps
description of, 218–219
earthquake epicenter e-learning
instruction created using, 39
Sneak Peek feature of, 218–219fig,
219fig, 220fig
template with current place and
progress reporting built in, 223,
223fig

Atto: NAMA Spookshop. com

Atto: NAMA Spookshop. com