

Index

A

- Aarseth, Espen 177, 188
- accelerometers 463
- action-oriented approach 1078
- active engagement 481
- Active Engagement Taxonomy 1039, 1041
- Activities of Daily Living Exercise Robot (ADLER) 689
- activity theory 530
- adult learners 352, 353, 354, 355, 357, 360, 361, 364, 367
- adult learning perspective 352
- adult learning theory 354
- adult motivation 352, 366
- advanced multimedia suppliments (AMMS) 440, 463
- Adventures of Lost Loch game 637, 638
- affect-centered games 482, 483, 484, 485, 486, 487, 488, 492, 493, 497, 498, 501, 502, 504, 506, 507
- affection 482, 483, 484, 485, 486, 487, 488, 491, 492, 493, 495, 497, 498, 499, 501, 502, 504, 505, 506, 507, 508, 509, 510, 511
- affective game engine 482, 483, 493, 502, 503, 504, 506, 507
- affective gameplay profile 482, 483, 485, 487, 504, 507
- affective gaming 482, 483, 484, 486, 492, 493, 498, 507, 508
- affective learning 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 584, 585, 602
- affective player envelope 482
- affective player profile 482, 483, 485, 487, 504, 507
- affective processes 74, 75
- affective skills 482, 483, 486, 509
- affect-sensitive games 483, 486, 502
- Age of Empires 551
- Alexander, Christopher 138, 150
- Algorithm Explorer 1039
- Algorithm Games 1036, 1038, 1041, 1043, 1048, 1049, 1059, 1063
- Algorithm Visualization 1037, 1038, 1040, 1058, 1063
- Algorithm Visualization Storyboarder (ALVIS) 1040, 1041
- alternate reality games (ARG) 240, 241, 242, 247, 248, 249, 250, 251, 252, 254, 255, 256, 257, 369
- American Psychological Association's (APA) 1155, 1165
- American Society of Engineering Education-Myers Briggs Type Indicator (ASEE-MBTI) 915
- America's Army 154, 241, 257, 414, 425
- amotivation 331
- application programming interface (API) 439, 440, 460, 463, 464, 465
- Arcademic Skill Builders 734
- architectural design 138
- attention-deficit/hyperactivity disorder (AD/HD) 583, 584, 585, 586, 587, 588, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 602, 604, 605, 633, 634, 636, 652, 653
- audio API 463
- audio codec 3 (AC-3) 435, 463

audio middleware 463
 auditory graph 463
 auditory pathway 463
 auditory scene 450, 451, 463
 auditory stream segregation 463
 Australian Indigenous students 806, 810
 Austria 52, 53, 63, 64, 66
 avatars 532, 533, 534, 535, 537, 540, 544, 608,
 609, 613, 615, 616, 620, 623, 626
 Ayiti® 271, 273, 276
 azimuth 436, 441, 463

B

Barcelona, Spain 395, 396, 402, 409
 basilar membrane 463
 Bas, Michael 333
 Battelle for Kids 1092
 behavioural, emotional and social difficulties
 (BESD) 633, 634, 635, 636, 651, 654
 Bell, Corwin 591, 605
 B-format audio format 463
 Billy Breaks the Rules multimedia adventure
 638
 Binary Search 1036, 1042, 1043, 1050, 1051,
 1052, 1053
 Binary Search Tree Operations 1036
 biofeedback 583, 585, 587, 588, 594, 599, 600,
 601, 602, 603, 604, 605
 biofeedback technology 583, 584, 596, 598
 Blended Learning 821, 822, 824, 844
 blending 822
 British Board of Film Classification (BBFC)
 178, 183, 184, 189
 British Educational Communications and Tech-
 nology Agency (Becta) 863, 872
 Brown Algorithm Simulator and Animator
 (BALSA) 1039
 Bubble Sort 1036, 1042, 1043, 1055, 1056,
 1057, 1058
 The Business Game 965, 966, 967, 968
 The Business Management Game 1117
 business management games 114
 business management practice 107, 114
 business management theory 107, 114
 Business Policy Game 1117
 BUSTED game 637, 638

C

call to action 272, 273, 275, 276, 282
 card games 75, 76
 Casebook Method 1021
 casual gamer 1066, 1075, 1085
 casual games 1066, 1067, 1068, 1085
 CENTRA Symposium 823, 829, 844
 Checkers 1092
 CheckOut! language game 330, 331, 338, 339,
 340, 341, 342, 343, 351
 civil procedure law 1019, 1024, 1029
 classical conditioning 605
 closed door syndrome 333, 350
 Cognitive Domain Taxonomy 880
 cognitive processes 74, 75, 76, 78, 81, 82, 83,
 84, 87, 88, 92, 93, 96
 Cognitive Taxonomy 880, 882
 cognitive theory of multimedia learning
 (CTML) 608, 611
 Cognitivism 880
 collaborative objects 536
 commercial off-the-shelf (COTS) games 2, 7,
 9, 14, 16, 18, 19, 20, 53, 120, 876, 877,
 881, 882, 883, 884, 885, 886, 888, 889,
 890, 891, 892, 893, 894
 common law 1020, 1030, 1034
 communicational processes 74, 75
 communication module 741, 742, 748, 749
 communities of practice (CoP) 962, 989
 competence, autonomy, and relatedness
 (C.A.R) 332
 CoMPUs 821, 826, 827, 829, 831, 832, 834,
 835, 845
 Computer Aided Design (CAD) 914
 Computer Aided Instruction (CAI) 728
 computer games 137, 138, 144, 152, 311, 550,
 551, 552, 553, 563, 564, 565, 1036,
 1037, 1038, 1039, 1041, 1059, 1060,
 1061, 1062, 1063
 computer science field 29, 33, 37, 38, 43, 44,
 47
 computer simulation 30, 36
 computer supported collaborative learning
 (CSCL) 371, 394, 822
 computer supported collaborative work
 (CSCW) 371, 391, 394

Index

Conceptual Physics 947, 960
configurative practices 176
Connect Four 1092
console-based games 311
constructivism 2, 7, 155, 174, 811, 943, 944,
946, 1085
constructivism model 823
Constructivist approach 880
contextual coupling 215, 222, 225, 226, 238
Course, Curriculum and Laboratory Improve-
ment (CCLI) 918
Cowan, Les 638, 654
crosstalk cancellation 463
Csíkszentmihályi, Mihály 394
cultural capital 398, 404, 405
cultural consumption 412

D

Darfur is Dying[®] 271, 272, 273, 276
data structure 1036, 1041, 1042, 1043, 1048,
1051, 1054, 1063
decoders 464
deep learning 860, 861, 862, 863, 864, 868,
869, 870, 871, 872, 874
demand characteristics 783, 794
Denmark 52, 63, 65, 66, 68
design 512, 525, 526, 528
design-based research (DBR) 917
design patterns 137, 138, 139, 140, 141, 142,
143, 145, 146, 147, 148, 150, 152, 661
Design-Theoretical Approach 1007, 1011
dialogic teaching approach 860, 861, 862, 863,
864, 866, 869, 870, 871, 872
didactic design 1006, 1015
Digital Calculus Coach 153, 155, 164, 165,
166, 167, 168, 169, 170, 171
digital educational games 661, 667, 676, 678
digital games 51, 52, 53, 54, 55, 56, 59, 60, 61,
62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72,
778, 784, 795, 805
digital games-based learning (DGBL) 292,
293, 302, 303, 308, 309, 765, 766, 772
digital gaming 395, 397, 412
digital immigrants 191
digital media 969, 973

digital natives 191, 396, 397, 399, 400, 401,
402, 403, 406, 407, 408, 409, 411, 1155,
1156, 1164, 1165, 1168, 1169, 1171,
1172, 1173
digital propensity 1150, 1158, 1159, 1160,
1161, 1163, 1164, 1165, 1169
digital storytelling 985
DirectX 437, 464
distance attenuation 439, 464
distance education 822, 824, 825, 829, 840,
841, 842, 843, 844
distributed authentic professionalism 964
Dofus 533
domain module 741, 742, 743, 748, 749, 753,
754
Doppler shift 439, 452, 464
down-mix 464
Dragon Age: Origins[®] 268, 269, 270, 271, 272,
274, 276, 647
DreamBox Learning K-2 Math 331, 333, 343,
348
drill-and-practice 1149
dual-channel assumption 608

E

ecology of learning 961, 963, 970
educational content 153, 154, 155, 156, 157,
158, 168, 170
educational game design 108, 109, 114, 1014
educational games 153, 154, 155, 156, 157,
158, 162, 163, 164, 170, 171, 175, 309,
821, 822, 823, 825, 826, 827, 829, 830,
832, 833, 836, 838, 839, 840, 843, 845,
1043
Educational Games Central (EGC) 823, 827,
830, 833, 835, 838, 845
educational games, paradox of 220, 238
educational patterns 139, 141, 145, 146, 150,
152
educational video game design 74, 78, 79, 81,
86
educational video games 74, 75, 85, 93, 96,
1004, 1005, 1007, 1015
edugames 118, 119
edutainment 216, 225, 551, 1065, 1067, 1068,
1080, 1085

ELECTRA PROJECT 941
 Electrical and Computer Engineering (ECE) 914, 919
 electroencephalogram (EEG) 586, 587, 599, 600, 601, 603, 605
 electronic gestural games 512
 eMapps.com project 52, 71
 embedded architectures 662
 emotion 482, 483, 484, 488, 490, 493, 494, 496, 498, 500, 501, 507, 508, 509, 510
 emotion modeling 482, 483
 empirical studies 1, 27
 encoders 464
 engagement 158, 175, 192, 193, 199, 209, 216, 235, 236, 369
 engagement observation protocol 310
 English as a second language (ESL) 736, 744, 752
 enjoyment 369
 The Enterprise Game 965, 966, 969
 entertainment-education 413, 414, 420, 422, 423, 425, 429
 entertainment games 120, 153, 156, 157, 159, 160, 161, 164, 165, 166, 170, 175, 216
 entertainment game structures 153, 157, 158
 Entertainment Software Association (ESA) 916, 935
 Entertainment Software Ratings Board (ESRB) 178, 189
 EPINOISI R&D project 765
 Escape from Woomera 121
 Europe 51, 52, 53, 54, 56, 62, 65, 67, 68, 69, 70, 71, 72, 73, 240, 241, 250, 256
 European Schoolnet 51, 52, 54, 69, 70, 71, 72
 EU Video Standards Council (VSA) 178
 evaluation 512, 522, 525, 528
 Everquest 1089
 e-VITA 974, 976, 978, 981, 983, 984, 986, 987, 988, 989, 990, 991, 992, 994, 995, 997
 experiential learning 979, 982, 989, 1024
 explicit motivation 429
 Exploratory learning 990
 external memory 464
 extrinsic motivation 243, 330, 331, 332, 369, 429

F

Federation of American Scientists (FAS) 916, 917
 female student teachers 550, 551, 552, 553, 557, 558, 559, 560, 561, 562, 563
 Finite State Machine (FSM) 1047
 First Person Cultural Trainer 154
 first-person games 311
 first person shoot-em-up (FPS) 886, 887
 5-channel surround sound (3/2) standard 434, 462
 Flanger effect 455, 464
 flow 101, 109, 110, 114, 311, 314, 323, 329, 388, 394
 flow experience 114, 619, 621, 632
 flow theory 155, 163, 311, 314, 394
 formal school settings 27
 France 52, 63, 66, 68
 functional electrical stimulation (FES) 687
 Fuzzy Felt 443, 464

G

game-based learning design patterns (GBLDP) 137, 138, 140, 141, 142, 143, 146, 147, 148, 149, 150, 152
 game-based learning environments 530, 547
 game-based learning (GBL) 1, 27, 29-38, 41, 42, 43, 44, 137-152, 241, 244, 247, 252, 259, 352, 364, 365, 368, 606, 629, 821, 823, 846-872, 913, 914, 933, 934, 937, 974, 976-984, 987, 993-1003, 1081, 1149-1155, 1162, 1163
 game-based learning (GBL): environment 242
 game-based learning (GBL): learner attitudes 242
 game-based learning (GBL): learner collaboration 242, 254, 255
 game-based learning (GBL): learner motivation 240, 242, 243
 game-based learning (GBL): learner perceptions 242
 game-based learning (GBL): learner performance 242
 game-based learning (GBL): learner preferences 242

Index

- Game Conflict 947
 - game content 160, 166, 175
 - game design 156, 175, 192-214, 606, 607, 608, 612, 619, 622-628
 - game design patterns 137, 138, 139, 140, 141, 142, 143, 147, 150, 152, 282
 - game development 175
 - "Game" educational game 550, 553, 554, 555, 556, 557, 559, 560, 561, 563, 564
 - game elements 103, 104, 114
 - game engine 950, 951, 952, 954, 960
 - game enjoyment 413, 414, 416, 417, 418, 420, 422, 424, 425, 427, 429, 430
 - game environment features 468
 - game environment features: challenge tasks 468
 - game environment features: learner control 468, 469, 478
 - game environment features: real-world consequences 468
 - game environment features: rules/goals 468
 - game environments 468, 475
 - GameFlow theory 740
 - game genre 567, 575, 582
 - game genre: action 576, 578
 - game genre: adventure 576, 578
 - game genre: process-oriented 576
 - game genre: strategy 576, 578
 - game interface design 512
 - game literacy 176, 191
 - game mechanics 175, 568, 582
 - Game Module 1069, 1071, 1081, 1082
 - Game Module Philosophy 1069
 - Game Objectives 947
 - Game Outcome 947
 - game playing 176
 - Game Procedures 947
 - games as dynamical systems 218, 219, 223, 232, 233, 238
 - games as signs 217, 218, 220, 231, 238
 - games, challenge dimension 550, 551
 - games, control dimension 551, 552, 553, 554, 556, 557
 - games, fantasy dimension 550, 551
 - games, mystery dimension 551
 - games, rules/goals dimension 551
 - games, sensory/stimuli dimension 551
 - gaming capital 398, 399, 402
 - Gee, James 156, 160, 162, 170, 172, 174
 - gender 550, 551, 552, 553, 557, 560, 562, 563, 564, 565, 566
 - gender differences 550, 551, 552, 553, 557, 563, 564, 565, 566
 - general aggression model 781, 794
 - General Public License (GPL) 1070, 1075, 1081
 - generation effect 781, 804
 - German film 443, 464
 - gestural game systems design 512
 - gestures 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528
 - Gesture Xtreme (GX) 691, 723
 - good gameplay 216
 - G/P/S model 118, 119, 125, 129, 130, 132, 133
 - G/P/S model: gameplay 118, 125, 131, 132, 133
 - G/P/S model: purpose 118, 122, 123, 125, 128, 131, 132, 133
 - G/P/S model: scope 118, 125, 129, 131, 132, 133
 - Grimes, Sara 178, 189
 - group administration 1078
 - group models 539, 540
- ## H
- Half Life 121, 551
 - Hamlet 512, 517, 519, 520, 521, 525, 526
 - Hardware (HW) 914
 - Harvard Business School Case Method 1114
 - head related transfer function (HRTF) 434, 436, 459, 464
 - heart rate variability (HRV) 587, 588, 591, 597, 603, 605
 - Higher Education 352, 353, 357, 358, 362, 364, 365, 368
 - Higher Education (HE) 820, 821, 822, 825, 827, 839, 840, 842, 843, 844, 876, 880, 881, 882, 892
 - How are digital games used in schools? study 51, 52, 53, 54, 55, 56, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72

- human gestural learning 512
 Human Resource Management Simulation 1117
 HumanSim 154
 hypermedia 75, 93
- I**
- ICO game 120
 identification 632,
 immersion 197, 208, 214
 immersive learning experience 981
 immersive presence 419, 430
 Immune Attack 1015
 implicit motivation 429
 individual differences 481
 individual interest 287, 307
 individualized learning environment 481
 industrial revolution 76
 informal education 395, 396, 399, 400, 408, 409
 informal learning 411, 412
 information and communication technologies (ICT) 732, 811, 812, 813, 814, 815, 816, 821, 841, 842, 847, 1077, 1148, 1149, 1150, 1154, 1155, 1157-1167, 1171, 1172
 information systems field 29, 32, 37, 38, 39, 43, 44, 46, 47, 48
 information value 1004, 1007, 1011
 innovative learning 850
 input-processing-output (IPO) 738
 Inserting Node Algorithm 1054
 Insertion Sort 1036, 1043, 1058
 Instituto Peruano de Paternidad Responsable (INPPARES) 899, 901, 902, 903
 instruction 195, 196, 214
 instructional design 192-205, 208-217, 231, 606, 607, 610, 611, 624, 625, 627, 628, 629, 631
 instructional game design (IGD) 215, 216, 217, 221, 231, 234, 235, 238
 integration 332, 347
 Intellectual Disabilities (ID) 759, 760, 761, 763, 765, 766, 767, 768, 770, 772
 Intelligent Tutoring System (ITS) 658-682, 740, 741, 742, 743, 748, 749, 753, 754, 755
 intensity differences 464
 interactions 192, 196, 200, 512, 513, 522, 527, 528
 interaural level 436, 464
 interaural time difference 437, 464
 intergenerational learning 974, 976, 982, 983, 984, 991, 995, 997, 999
 International Game Developers Association (IGDA) 737
 International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 440, 462, 464
 interpretive practices 176
 intrinsic motivation 101, 114, 241, 243, 253, 259, 286, 287, 290, 291, 293, 295, 297-301, 306, 307, 308, 330, 331, 332, 346, 349, 350, 369, 394, 421, 426, 429
 intrinsic motivation characteristics 114
 intrinsic motivation characteristics: challenge 101, 114, 287, 288, 289, 293, 294
 intrinsic motivation characteristics: control 98, 99, 101, 102, 105, 114, 287, 288, 294, 298
 intrinsic motivation characteristics: curiosity 287, 294, 305
 intrinsic motivation characteristics: fantasy 98, 101, 105, 106, 111, 114, 287, 288, 289, 293, 294
 intrinsic motivation characteristics: interpersonal 287
 intrinsic motivation characteristics: mystery 98, 101, 114
 intrinsic motivation characteristics: rules/goals 101, 114
 intrinsic motivation characteristics: sensory stimuli 101, 114
 irrelevant sound effect 452, 464
 Italian Defender 1089
 Italy 52, 63, 64, 66
- J**
- Java-based Intelligent Tutoring (JaBIInT) 675, 676
 Java Hosted Algorithm Visualization Environment (JHAVE) 1040
 Java Therapy 692

Index

job access with speech (JAWS) 465
The Journey To Wild Divine game 583, 587,
590, 591, 593, 594, 596, 598, 599, 605
junior high school 309

K

K-12 education 310, 311, 467, 470, 475, 479,
480
K-12 students 28
K-20 education 310
knowledge 74, 75, 76, 78, 80, 81, 82, 83, 85,
90, 93, 95, 96
knowledge, attitudes and practices (KAP) 899
knowledge construction 335, 340
Knowledge scale 905
Knowledge Society 821
knowledge transfer 976, 977

L

language education 240, 241, 244
LaTeX markup language 444, 445, 465
LEADER.edu 1111, 1122, 1123, 1124, 1125,
1127, 1130, 1131, 1137, 1138, 1139,
1147
leadership competencies 1114, 1116, 1122,
1145
leadership development 1111-1123, 1131,
1138, 1139, 1140, 1141, 1144
learner attainment value 283, 285, 288, 293,
295, 297, 299, 301, 309
learner-centered pedagogy 216
learner control 468, 469, 479, 481,
learner cost perceptions 283, 301
learner intrinsic value 283, 285, 286, 288, 299,
300, 301, 309
learner knowledge 283, 288, 291, 292, 293,
299, 300, 301, 303
learner self-efficacy 283, 285, 287, 292, 293,
295, 296, 297, 299, 300, 301, 303, 305
learner utility value 283, 285, 286, 293, 299,
301, 309
learning 195, 196, 198, 199, 205, 210, 211,
212, 213, 214, 512, 526, 528
learning activities 582
Learning Adventure virtual world 531, 542,
543, 546

learning environments 312, 313, 314, 324
learning games 138, 139, 143
learning goals 481
learning in educational settings 1005
learning management systems (LMS) 530,
531, 532, 541, 820, 821, 822, 823, 827,
828, 833
learning styles 567, 568, 569, 570, 571, 572,
573, 574, 575, 576, 577, 578, 579, 580,
581, 582
learning styles: accomodators 578
learning styles: assimilators 570, 572, 574, 578
learning styles: convergers 570, 572, 573, 574,
578
learning styles: divergers 569, 574, 578
Legal Clinics 1021
limited capacity assumption 608
Linked List 1036, 1054, 1055
Linux-Apache-MySQL-Python (LAMP) 1027
Lithuania 52, 66
loose coupling 215, 222, 224, 238
lossless compression 465
lossy compression 465
low frequency effect (LFE) 434, 465
ludology 126, 134, 136, 394,

M

magic bullet problem 155
magic circles 194, 196, 201, 214
male student teachers 550, 553, 557, 562
Mario is Missing! 334
Mario's Time Machine 334, 349
Martin Dougiamas 1069
Mass Effect™ 647
massively multiplayer online games (MMOG)
370, 371, 372, 373, 374, 375, 376, 377,
378, 379, 381, 382, 383, 384, 385, 386,
387, 390, 394, 419, 1066, 1085
massively multiplayer online learning environ-
ment (MMOLE) 531
massively multiplayer online roleplaying games
(MMORPG) 384, 394, 531, 728, 1156
MathML markup language 444, 465
McLuhan, Marshall 153
meaningful learning 100, 114
media character 632

- media psychology 606, 607, 615, 626, 628, 629, 632,
 Mentoring 1115, 1119, 1146
 meta-enjoyment 429
 meta-learning 871, 872
 microworlds 102, 114
 middle school 309
 mild intellectual disability (MID) 765, 766
 mobile media API (MMAPI) 440, 460, 463
 mobile technology 481,
 modding 876, 882, 883, 886, 888, 889, 890, 892, 893
 model-view-controller (MVC) 661, 679
 modern foreign languages (MFL) 241, 244, 247
 mods 121
 Module Game 1070, 1074, 1085
 Monopologs 1117
 Moodle 1064, 1066, 1069, 1070, 1071, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1085
 Moot court 1021, 1034
 Moot Courts Competitions 1021
 motivation 192, 193, 197, 199, 201, 202, 205, 469, 470, 471, 477, 481, , 512, 528, 578, 579, 582
 motivational factors 574
 motivational factors: competency 574
 motivational factors: context 574
 motivational factors: control 574
 motivational factors: engagement 574
 multi-channel audio systems 459, 465
 multimedia 75, 94, 527, 528
 multimedia design 632,
 multimedia learning 607, 608, 609, 611, 613, 627, 629, 630, 632
 multimedia learning: coherency principle 609
 multimedia learning: modality-principle 609
 multimedia learning: multimedia principle 609
 multimedia learning: redundancy principle 609
 multimedia learning: spatial contiguity principle 609
 multimedia learning: temporal contiguity principle 609
 multimodal 1004, 1007, 1008, 1011, 1014, 1017
 multimodal framework 1004, 1007, 1008, 1011, 1014
 multimodality 527, 528
 multimodal systems 465
 multiple linear regression (MLR) 1157, 1158, 1159, 1160, 1161, 1162
 multi-user virtual environment (MUVE) 5, 6, 7, 8, 9, 13, 14, 15, 16
- ## N
- narratives 632,
 narratology 394
 National Foundation for Educational Research (NFER) 848, 854, 858
 National Science Foundation (NSF) 916, 918
 natural education technology 1151
 need theory 331
 Nemeth code 443, 445, 463
 .NET Framework 465
 Netherlands 52, 63, 64, 65, 66, 68, 71, 72
 neurodevelopmental technique (NDT) 704
 neurofeedback 585, 586, 600, 601, 602, 605
 new media literacy 970
 New Zealand 176, 177, 178, 181, 182, 183, 189, 190, 191
 New Zealand Classification Office 191
 New Zealand Office of Film and Literature Classification (OFLC) 177, 178, 181, 182, 183, 184, 190
 Nintendo Wii 513, 528
 non-formal education 395, 396, 397, 399, 402, 403, 404, 405, 409
 non-formal learning 412
 non-governmental organizations (NGOs) 897
 non-player characters (NPC) 608, 609, 610, 611, 612, 613, 615, 616, 617, 620, 621, 622, 623, 663, 664, 666, 668, 669, 670, 671, 673, 674, 675, 676, 682, 887, 1046
 notch filter 465
- ## O
- OpenAL audio API 439, 460, 465
 OpenGL graphics API 465
 open sound library for embedded systems (OpenSL-ES) 440, 465
 operant conditioning 605

Index

oppositional defiant behaviour 633
Optex Adventure system 638
optimal affective envelope 483

P

Pan European Game Information (PEGI)
 framework 178
Papert's Constructionism Theory 811
paralanguage 515
parasocial interactions 430, 615, 632,
partially integrated architectures 658, 662, 664,
 665, 671
participation 582
pattern formation 990
pattern language 138, 150, 151
patterns 137, 138, 139, 140, 141, 142, 143,
 145, 146, 147, 148, 149, 150, 151, 152
pedagogical framework 823
pedagogical patterns 137, 139, 140, 142, 144,
 145, 146, 150, 152
Peer-resistance efficacy scale 905
performance 518, 519, 521, 522, 528
persistent worlds 394
personal interest 284, 287, 288, 301
personality 572, 578, 580, 581, 582
personality factors 572
personality factors: agreeableness 573, 578
personality factors: conscientiousness 573, 578
personality factors: extraversion 573, 578
personality factors: neuroticism 573, 578
personality factors: openness 572, 578
physics simulation 950, 951, 952, 960
Piagetian theory 216
Piaget, Jean 216
pinnae 465
pinna transfer function 465
Pivec, Maja 53, 70
PIXELearning 961, 965
play 194, 214, 216, 235, 415, 427, 428
player affection 551
player affection: confidence 551
player affection: enjoyment 551
player affection: interest 551
player affection: task involvement 551
player agency 197, 200, 202, 208, 214

player character (PC) 664, 667, 668, 669, 670,
 671, 673, 674, 676, 682, 1046
pleasure 369
popular-cultural discourse 849, 850, 856
populist-cultural discourse 847
Prensky, Marc 138, 151, 185, 190, 191
Prensky's Six Structural Factors 1007, 1008,
 1010
problem-based learning (PBL) 284, 291, 292,
 294, 301, 302, 303, 309, 979, 981, 989,
 1000, 1001
professional-curricular discourse 847, 849,
 856, 857
professional curricularization 849, 850
proposed educational intervention 823
Proprioceptive Neuromuscular Facilitation
 (PNF) 687, 704
psychoeducation 483
psychotherapy 483, 486, 507, 508
Pulse!! 120, 121, 128
pulse code modulation (PCM) file 439, 465
purpose-shifting 120, 121, 126, 133

R

range of motion (ROM) 709
rapid application development 742
rating labels 191
ratings 178, 191
ratings classification 176, 177, 178, 182, 186,
 189, 190, 191
reference architecture 659, 661, 665, 670, 671,
 672, 675, 676
relaxation 583, 584, 587, 589, 590, 592, 594,
 595, 596, 597, 598, 599, 600, 601, 602,
 603, 604, 605
Remote Associates Test (RAT) 744, 750, 751,
 752
research review 1, 23, 24
RixDax 1007, 1008, 1009, 1011, 1013, 1014,
 1015, 1016
Robot-Aided Therapy 687
roleplaying games (RPG) 531, 532, 533, 537,
 539, 540, 637, 642, 643, 644, 647, 652,
 659, 664, 667, 668, 670, 671, 674, 675,
 882, 883, 884, 885, 887, 888, 894, 945,
 1025

S

- sacrificial action 269, 270, 271, 276, 282
scaffolding 335, 336, 349, 350, 394
Schell, Jesse 156, 163, 173, 174
science education 1, 2, 3, 4, 7, 9, 10, 12, 14, 15, 19, 20, 22, 23, 24, 25, 26, 27, 28
seduction 369
Selection Sort 1036, 1057
self determination theory (SDT) 416, 430
self-efficacy 309
sensor technology 583
separated architectures 662
September 12th game 1089
serious educational games (SEG) 310, 311, 312, 313, 314, 315, 316, 317, 319, 320, 321, 322, 325
serious game development 413, 425
serious games 29, 30, 31, 43, 98, 103, 104, 108, 109, 114, 118-125, 128-135, 138, 310, 413-426, 429, 582, 584, 604, 634, 640, 654, 684, 689, 719, 720, 961-971, 974-997, 1002, 1003, 1019, 1020, 1022, 1030, 1031, 1068, 1085
serious games, taxonomy of 31
serious gaming 413, 414, 415, 419, 420, 422, 423, 424, 425, 430
sexually transmitted diseases (STD) 895, 896, 899
Shakespeare, William 512, 517, 520
shared learning 270, 271, 276, 282
SimCity 551
simulation games 30, 31, 48, 49
simulation games, closed 31
simulation games, open 31
simulations 2, 3, 4, 5, 7, 14, 15, 22, 26, 27, 29, 30, 31, 32, 34, 35, 36, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 311, 312, 323
simulations, genotypical 30
simulations, phenotypical 30
Simulex 1019, 1020, 1022, 1023, 1025, 1026, 1028, 1029, 1030
skin conductance level (SCL) 587, 588, 590, 591, 605
Smarter People through Interactive Digital Entertainment Resources (SPIDER) research group 397, 405
Smith, Kurt 584, 591, 603, 605
snakes and ladders 76
social and emotional aspects of learning (SEAL) program 634, 635, 636, 642, 643, 647, 648, 651, 652
social change games 271, 282
social cognitive theory (SCT) 899, 900
social constructivist oriented course 1077
Social efficacy scale 905
socialisation-externalisation-combination-internalisation (SECI) 983
social maintenance 267, 268, 269, 271, 276, 282
social science 1112
social use 412
Society of the Advancement of Games and Simulation in Education and Training (SAGSET) 860
Socio-Cultural Theory 943
software architecture 658, 659, 660, 661, 662, 671
software development 138
Software Development Kit (SDK) 885
software engineering field 29, 37, 38, 39, 43, 44, 45, 47, 48, 49, 50
sonic dimensions 466
sonification 466
Sony Eyetoy 513
Sound Effects (SFX) 1046, 1047
Spain 52, 66, 395, 396, 400
spatial algorithmic language for storyboarding (SALSA) 1041
spatial audio coding 441, 466
spatialization cues 466
Special Educational Needs (SEN) 759, 760, 761, 762, 763, 765, 767, 770, 772
speech application programming interface (SAPI) 465
SporeTM 860, 863, 864, 865, 866, 867, 868, 871, 872, 873, 875
Stanislavsky, Constantin 514, 528
St. Augustine of Hippo 515, 527
stealth learning 354
strategic process 1122
Strategy and Construction and Management 953

Index

structural analysis 181, 191
student engaged learning in a technology rich
 interactive classroom (SELTIC) 310,
 311, 312, 315, 316, 320, 321, 322, 328
student engagement 311, 312, 313, 314, 315,
 320, 322, 323, 324, 325, 326
student module 741, 742, 749
Studies in the Development of Leaders 1117
subjective task value 285, 309
Super Mario Bros 334, 335, 336, 344, 348,
 350, 551, 638
surface learning 861, 872
Sutton-Smith, Brian 331, 349
sweet spot 466
sympathy for victim 272, 273, 276, 282
synchronous virtual classrooms 822, 823
synthetic worlds 1089
system flexibility 530, 531, 532, 545
systemic learning 215, 222, 223, 226, 231, 238

T

teaching assistant's (TA) 914
technological framework 820, 822, 823
Tetris 1091, 1093, 1096, 1109
text-to-speech (TTS) 432, 444, 446, 448, 466
textual analysis 191
The Alien Rescue Game (TARG) 283, 284,
 291, 292, 293, 294, 295, 296, 297, 299,
 300, 301, 302, 303, 309
theatre 512, 514, 517, 518, 528
theatre: performance paradigm 512, 513, 514,
 516, 518, 519, 521, 522, 524, 528
theatre: rehearsal paradigm 512, 513, 518, 519,
 521, 522
theatre: text paradigm 512, 513, 514, 517, 518,
 519, 520, 521, 522, 525, 526
theatrical performance 512, 514, 519
theatrical practice 512, 518, 525
third-person games 311
3rd World Farmer© 272, 273, 276
Tic-Tac-Toe 1092
time-on-task (TOT) engagement factor 313
Time/Space Matrix 1022
"To be or not to be" interactive game 517, 519,
 520, 521, 522, 523, 524, 525, 526, 527,
 528

Top Management Decision Simulation 1117
Tower of Babel ARG 241, 249, 250, 252, 253,
 255, 256
Transactional Learning Environment (TLE)
 1024
transformation 197, 200, 208, 214
transmediality 1026, 1032
Trauma Center: Under the Knife 120
Travel Policy Task Force (TPTF) 1126, 1134,
 1135, 1136
Traversal Algorithm 1054
Tutoring Tele-Meetings (TTMs) 822, 823, 825,
 826, 831, 832, 833, 835, 836, 837, 838,
 839, 840, 842, 845,
tutor module 741, 742, 748, 749
twitch games 1151, 1173

U

United Kingdom (UK) 52, 63, 65, 66
United Nations General Assembly Special Ses-
 sions (UNGASS) 896, 910, 912
United States (US) 178, 185
University of Applied Sciences FH Joanneum
 (Austria) 53
University of Macedonia 820, 822, 829, 830,
 840, 844, 845
Unreal audio system 466
Unreal Development Kit (UDK) 885, 888
Unreal Game Engine© 466
unserious activity 764
up-mix 466
User-Centered Design (UCD) 694, 708
User-Centered Neurorehabilitation 685, 695
user immersion 530, 531, 534, 540, 544, 546,
 547, 548, 549
user models 530, 531, 532, 533, 534, 535, 536,
 537, 538, 539, 540, 542, 543, 544, 545,
 546, 547, 549
users 528

V

verbal interaction 731
video game design 1005, 1014, 1016
video game genres 74
Video Game Rating Act (1994) 178

video games 74, 75, 77, 79, 82-87, 92, 93, 95,
96, 395-412, 1148-1151, 1155, 1156,
1159-1173
video games, excessive consumption of 395
video games, violence in 395, 397, 403
virtual aggression 778, 782, 797, 798, 805
Virtual Battlefield system (VBS) 785
virtual binaural 466
virtual classroom 820, 822, 823, 824, 825, 826,
827, 828, 829, 830, 831, 833, 834, 835,
837, 838, 840, 841, 842, 843, 844, 845,
virtual reality modeling language (VRML)
440, 466
virtual reality (VR) 690, 692, 711
Virtual Social Interactions 798
virtual views 539
virtual worlds 371, 390, 394, 531, 540, 541,
549
visual display unit (VDU) 466
Vygotsky, Lev 264, 265, 266, 274, 281, 335,
350, 469, 481, 530

W

Web-based education 820, 821
Web-based Educational Game 820
Web-based Training (WBT) 822
winner strategies 215, 222, 223, 224, 226, 231,
238
World of Warcraft© 193, 203, 533

X

X3D modeling language 466
XACT audio library 439, 466
XNA programming tools 439, 442, 466

Y

yoga practice 512

Z

Zero Hour: America's Medic 154
zone of proximal development (ZPD) 266, 469