SUBJECT INDEX

A

Absences, 239, 240
Abstract conceptualization, 292, 294
Academic advising, 201-203
    See also Advising; Counseling
Academic freedom, 324-326, 341-342
Academic job hunting, 348-352
Accommodation, as cognitive process, 267, 295-296
Accreditation, of programs, 60-62
Accreditation Board for Engineering and Technology (ABET), 60-62, 169-70, 185
Activating experience, in RET, 29
Active experimentation, 292, 294
Active learning, 7, 290
    and tutoring, 198-199
Activity list, for goal, 11-12
Advising
    academic, 201-203
    of research, 205-210
    See also Counseling
Affective domain, 51-52
Algebra, and problem-solving, 76
AAUP Declaration of Principles (1915), 325
American Society for Engineering Education (ASEE)
    -MBTI Engineering Consortium, 257-258
    Prism, 338, 349
    teaching programs, 3
Analysis, cognitive, 50, 131-132
    symbolic algebra programs for, 155
Application, cognitive, 50, 54, 131-132
Assimilation, cognitive, 267-268, 295-296
Attending, 51
Attention, focusing, 95, 191-192
Attention signals, 193
Attitude, 246-252
Audience, of lecture, 98
Audiographics, 146
Audiotutorial (AT), 161-163
Auditory learning, 291-292
Authority figure, 270
    and multiplicity position, 272-273
Auxiliary function, 250-252

B

Basic duality position, 270-271
Behavioral objective 47-48
Belongingness need, 299-300
Black box syndrome, 156
Blackboard
    electronic, 146
    use in lecture, 97-98
Brainstorming, 80-81, 117, 118
"Buzz" group, 121

C

Cafeteria ratings, 310
"Capstone" course, 62, 170
Case study, 33
    and design problems, 171-172, 175
Catastrophe syndrome, 25, 29
Cheating
    cure for, 238
    in large classes, 109
    prevention of, 235-238
    by professors, 311
    See also Discipline; Ethics
Checking results step, of problem-solving, 72
Chronicle of Higher Education, 349
Class size, and evaluation, 308, 315
Class visits, as evaluation, 309, 319
Cognitive development
    alternatives to growth, 275-276
    comparison: Piaget and Perry theories, 269
    Perry's theory of, 269-280
    Piaget's theory of, 264-268
    transitional phase of, 266-267
Cognitive dissonance (*see* Disequilibrium; Dissonance theory)
Cognitive domain, 49-51
Collegiality, 335
Commitment, 274-275
Communication
    in academic advising, 203
    as course component, 33
    and design projects, 175
    and doctoral research, 209
    grades as, 229
    in guided design, 177
    as laboratory goal, 182
    listening, 189-194
    nonverbal, 52, 96, 192-193
    oral, 96
        See also Oral reports
    and projects, 228
    TA's command of English, 16
    writing research papers, 209
Competition
    versus collegiality, 335
    versus cooperation, 135
Complex dualism and advanced multiplicity position, 272-273
Comprehension, 49

Computer(s)
in design courses, 169, 171
graphics, 17
homework problems, 227
prerequisites for use of, 152
programming, 17
simulation games, 287
software, and textbook, 58
software tools, 153-156
use of, 16-17
Computer-aided design (CAD) programs, 156
Computer-aided instruction (CAI), 156-159
Concept application phase, of learning cycle, 287
Concept map (network), 286
Concrete experience, 292, 294
Concrete operational stage, 265-266
Conflict, in discussion, 120
Connected knowledge, 273-274
Consensus, rules for reaching, 127-128
Constructed knowledge, 275
Constructivism, 268, 284-288
Content
of course, 46, 55-56
hierarchy of, 6
of lecture, 91-92
objectives of, 54
Content boredom, of faculty, 339
Contract grading, 134
Control, locus of, and motivation, 302
Convergent thought, 75, 295-296
"Cookbook" approach, 180-181
Cooperation, versus competition, 135
Coping, personal, 205
Copyrights, 57
Cost-benefit analysis, of research, 23
Counseling
for personal problems, 203-205
and type theory, 254
See also Advising
Course(s)
audience for, 33
design, 168-179
See also Design courses
developing content of, 55 -56
goals and objectives of, 34, 46-48
incorporating creativity into, 83-84
independent study, 137-138
laboratory, 179-184
See also Laboratory courses
and lecture method, 110-111
sample outline for, 353-354
types of, 32-33
Course Instructor Evaluation Questionnaire (CIEQ), 310
Cover letter, for application, 349-350
Creativity
calling for, 80
in design course, 171
inefficiency of, 27
in problem-solving, 79-84
and research ideas, 23
and self-actualization, 301
techniques for, 80-84
and test-scoring, 222
Crisis intervention counseling, 203-205
Critical path, 13
Culture, and nonverbal communication, 192-193
Curiosity, as motivator, 301-302

D

Debate, modified, 129-130
Decision-making, 249-250
Deduction
versus induction, 289
in textbook, 58
Define step, of problem-solving, 71
Deliverable
of project, 228
in small group learning, 122
Demonstration, during lecture, 97
Desensitization, and stress, 25
Design course(s), 33, 168-179
and accreditation, 61-62
clinic, 178-179
problems of definition, 168-169
developing problems for, 171-172
and dualism position, 271
goals of, 169-170
guided design, 171, 174, 176-178
laboratory in, 181-182
and multiplicity position, 272
projects for, 173-175
teaching of, 170-173
Desk calendar, 13
Development
in research, 339
in service or administration, 339-340
in teaching, 338-339
Diagnosis, 53
Discipline
non-cheating problems of, 238-240
policies for, 37
problems with, 41
See also Cheating; Ethics

Discovery method, 78
Discrimination, of test, 223
Discussion, 114-121
  advantages of, 116-117
  conducting, 118-121
  disadvantages of, 117
  topics for, 117
Disequilibrium, cognitive, 268, 284-285
Dissociation, 276
Dissonance theory, and evaluation, 307
Distractor, in multiple-choice question, 219
Divergent thought, 75, 295-296
Do-it step, of problem-solving, 72
Doctoral student, advising of, 208-210
  See also Graduate student
Dominant function (MBTI), 250-252
Drill-and-practice mode, of CAI, 157
Dualism: multiplicity prelegitimate position, 271

E

Economics, and design course, 171
Education
  accreditation constraints, 60-62
  Hougen's principles of, 342-344
  and Myers-Briggs Type Indicator, 252-258
  and Piaget's model of cognitive development, 266-267
  and Perry's model of cognitive development, 276-280
  nontraditional students, 2
  self-paced instruction, 134-135
  See also Teaching
Efficiency
  and goal-setting, 11-12
  limitations to, 26-27
  methods for, 17-18
  and priorities, 12-13
  in research, 22-24
  and stress, 24-26
  in teaching, 20-22
  to-do list, 13-14
  and travel, 18-20
  and work habits, 14-18
Electronic blackboard, 146
Electronic mail, 146
Emotional consequence, in RET, 29-30
Empathy, in counseling, 204
Encapsulation, 276
English, TA's command of, 16
Engineering education (*see* Education)
Engineering practice, 339
Enthusiasm, 7
  and student ratings, 317
  See also Intellectual excitement
Environment, work, 18, 24-25
Equipment, laboratory, 183
  for beginning academic, 349
Escape, cognitive, 276
Esteem, need for, 300
Ethics
  AAUP statement of, 341, 341-342
  and academic freedom, 341-342
  of bad teaching, 3
  and cheating, 236
  code of, 241
  and data, 341
  as discussion topic, 117
  and exploitation of students, 341
  intellectual honesty, 342
  professional 340-342
  and professional evaluation, 341
  of proposal writing, 24
  and punishing level of rapport, 5
  in relation with support staff, 16
  teaching of, 240-242
  and type theory, 254
Evaluation
  by alumni, 319-320
  as cognitive level, 50
  of computer-aided instruction, 157-158
  formative, 306-309
    in PSI, 136
  and multiplicity position, 272
  of projects, 228-229
  as separate from teaching, 7
  as skill, 54-55
  by students
    administration of, 311-312
    "buying" ratings, 317-318
    and extraneous variables, 315-317
    in interviews, 318
    reliability of, 312-313
    types of, 309-311
    validity of, 313-315
  summative, 307-309
  of teaching, 41, 306-323
  of technological instruction, 147
  See also Grading; Testing
Experiments, 181
  See also Laboratory course
Exploration phase, of learning cycle, 287
Explore step, of problem-solving, 71
Extrinsic motivation, 297
Extroversion (Extraversion), 246, 247-248
  and learning style, 290
  and travel, 19
Eye contact, 103

F

Faculty development, 337-340
Fax, 146
Feedback
  grades as, 229
  in guided design, 176
  as learning principle, 7
  and need satisfaction, 300
  in self-paced instruction, 133, 134
  by student volunteers, 104-105
  to student's oral response, 102-103
  for students, by video, 150-151
  tests as, 215, 218, 222-223
Feedback lecture, 108
Feeling type, of personality, 249-250
  and listening, 190-191
Field dependence, in learning, 289
Field trip, 138-139
  "electronic," 145, 147
  and visual learning, 291
Final exams, 215-216
  See also Evaluation; Testing
Financial support, of graduate student, 206
Focus of attention
  by student, 95
  on student, 191-192
Functions
  dominant and auxiliary, 250-252
  of personality, 246-252
Formative evaluation, 306-309

G

Gender differences
  and academic advising, 201
  and authority figures, 270
  in commitment, 275
  in discussion participation, 119
  in group dynamics, 122, 124, 126
  in language perception, 271
  See also Women
Generalization step, of problem-solving, 72
Generation, of routines, 53
Global learning, 289-290
Goal(s)
  activity list for, 11-12
  of courses, 34, 46-48
  of design courses, 169-170
  of laboratory courses, 179-180
  setting of, and efficiency, 11-12
Grade level
  and academic advising, 202
  and field trip, 139
  and frequency of testing, 215
  and tutoring, 148
Grading, 41-42, 213, 229-232
  absolute standards for, 231
  on a curve (normative), 231
  and esteem, 300
  of group projects, 173
  of guided design projects, 178
  and learning groups, 124
  method of, 35, 37, 230-232
  purpose of, 229-230
  scales of (in *T* scores), 230
  in self-paced instruction, 134
  and student ratings, 316
  and teaching assistant, 16
  See also Evaluation; Testing
Graduate student
  advising of, 206-210
  courses for, 32
  non-performing, 2 40
  supervision of, 23
Group(s)
  assigning students to, 123-124
  and design problems, 172-173
  developing a memory board, 286
  elements of success, 126
  and feedback to videotypes, 151
  formal, cooperative, 123-127
  and grading, 124
  informal, cooperative, 121-123
  modified debate, 129-130
  panels, 128-129
  and problem-solving, 78
  "quiz shows," 130
  reasons for malfunctions in, 172-173
  small, cooperative, 117
  structured controversy, 127-128
  study, 226
Growth contract, 337-338
Guided design, 171, 174, 176-178

H

Hawthorne effect, 302
Help sessions, 220
Heuristics
  and creativity, 82-83
  and problem-solving, 73-75
Homework problems, 20-21, 38, 40, 213-214, 226-227
  and knowledge structure, 286
  late, 239-240
  range of, 226
Honor code, 52, 221

Hostility
as discipline problem, 239
and humor, 191
Hougen's principles, for engineering education, 342-344
"Housekeeping chores," during first class, 36-37
Humor
and creativity, 82
and hostility, 191
in lecture, 99
and tutoring, 200

I

In Search of Excellence (Peters and Waterman), 15
Independent study, 137-138
Individualization, of teaching style, 7
Individualized instruction
and mastery learning, 132
and tutoring, 198
Induction
versus deduction, 189
in lecture, 93
in textbook, 58
Industrial cooperative program, 178
Information processing, 288-289
serial or global, 289-290
Instructional Assessment Form (IAS), 310
Instructional Development and Effectiveness Assessment System (IDEA), 310, 312
Intellectual excitement, 4-5
Interaction, personal, 14-16
developing style of, 36, 40
in discussion, 115, 116
in formal learning group, 126
in large class, 109
See also Interpersonal rapport
Interactive laser videodisc (ILV), 159-161
Interdisciplinary projects, 174
Internal beliefs, in RET, 29-30
Internalization, 51
Internship, and design clinic, 178-179
Interpersonal rapport, 4-5
in lectures, 103-105
and Myers-Briggs Type Indicator, 254
and personal counseling, 204
See also Interaction, personal
Interpretation, 53
Interview trip, 350-351
Intrinsic motivation, 297
Introversion, 246, 247-248
and learning style, 290
Intuitive type, of personality, 246, 248-249
and engineering education, 253

J

"Jack Armstrong" syndrome, 340
Judging type, of personality, 246, 250
and listening, 191
Judgment (MBTI), defined, 244

K

Keller plan, 133-135
Key relations chart, 286
Keyboarding, 17, 52
Kinesthetic learning, 290-291
Knowledge
affective domain, 51-52
constructed, 275
and creativity, 80
domains of, 49-53
as level of cognitive domain, 49
linkages of, 68
problem-solving, 53
psychomotor domain, 52
separate and connected, 273-274
traditional view, compared to constructivism, 285
Kolb's learning cycle, 290, 292-296
modified, diagram of, 293

L

Laboratory course(s), 33, 179-184
advantages and disadvantages of, 183-184
and constructivism, 285
design, 181-182
details of, 182-183
experiments, 181
goals and objectives, 179-180
in skills course, 179
structure of, 180-182
and student ratings, 316
Lateness, 239
Lateral thinking, 81
Learning
activities, 294
auditory, 291-292
constructivism, 284-288
formal, cooperative group, 123-127
informal, cooperative group, 121-123
kinesthetic, 290-291
Kolb's cycle of, 292-296
with lecture method, 90
McCarthy's 4MAT system of, 293-296
mastery, 131-133
and personality, 244-259

Learning *(continued)*
Piaget's theory of, 267-268
practice-theory-learning model, 279
principles of, 6-7, 197
self-paced, 133-135
theories of, 284-305
visual, 6-7, 291
Lecture method, 32-33, 34
advantages of, 89-90
answering questions, 100
asking questions, 101-103
compared to tutoring, 196, 197
and constructivism, 285-286
and content selection, 91-92
disadvantages of, 90-91
and efficiency, 20
feedback to, by student volunteers, 104-105
feedback lecture, 108
guest speakers, 106-107
handling large classes, 108-110
and interpersonal rapport, 103-105
nontechnological alternatives to, 114-142
notes for, 94
organization of, 92-93
as part of a course, 110-111
as performance, 93-99
postlecture quiz, 105-106
preparation for, 21-22, 39-40
presentation skills for, 95-99
props for, 97-98
speaking skills, 96
Liberal arts, and intellectual growth, 279
Listening
attention signals, 193
compared to non-listening behavior, 194
probes, 193
as teaching skill, 189-194
Literature review, 208, 209
Long-answer test, 219

M

McCarthy's 4MAT system, of learning, 293-296
Mail, handling of, 18
Maslow's hierarchy of needs, 298-302
Master's degree, research advising for, 207-208
Mastery learning 131-133
instruction for, 132
instructor-paced, 136-137
in Keller plan, 133, 134
Measure of Intellectual Development (MID), 277
Memory board, 286
Mental structure, 267
Mentoring
of assistant professors, 2
as faculty development, 338
professor-professor, 43
Minorities, 2
as doctoral recipients, 336
and field sensitivity, 289
formal learning group, 126-127
and personality type, 257
Minute paper, 321
Mixed scanning strategy, 74
Modeling, for teaching, 338
Modules, learning, 133, 134
Motivation
and esteem needs, 300
initial, and ratings, 315
intrinsic and extrinsic, 297
and McCarthy's 4MAT system, 294
Maslow's theory of, 298-302
and Myers-Briggs Type Indicator, 254
positive expectations as, 7
and problem-solving, 71
student problems with, 297-298
Multiple-choice tests, 106, 219-220
Multiplicity subordinate or early multiplicity position, 271-272
Murphy-Meisgeier Type Indicator, 258
Myers-Briggs Type Indicator (MBTI), 14, 190-191, 207, 244-259
application to engineering education, 252-258
and design team selection, 172
difficulties with testing, 258-259
summary table of, 247

N

NSF/IEEE Center for Computer Applications in Electromagnetic Education, 156
National Survey of Faculty (1989), 328, 332-333
National Technological University (NTU), 145
Needs, Maslow's theory of, 298-302
Nonparticipation, 120
Nonverbal communication, 52, 96, 192-193
Note-taking
in laboratory, 182
by students in class, 40
by teaching assistant, 15

O

Objective knowledge (*see* Separate knowledge)
Objective(s)
in affective domain, 55
behavioral, 47-48

Objectives *(continued)*
psychomotor, 55
taxonomies of, 49-53
and teaching styles, 53-55
for thermodynamics course, 48
Observation, learning by, 2
Office hours, 14, 41, 111, 190
of teaching assistant, 15-16
and tutoring, 195
Old Master program, 107
Open book tests, 217, 236
Oral report
as final exam, 216
videotaping, 150
See also Communication
Organization, of values, 51
Overhead projector, 97-98
Overparticipation, 120

P

Panel discussion, 128-129
Paraphrasing, 193
Passive learning, 290
Pattern recognition, 83
Pendulum style of teaching, 295
Perception
defined, 244
and stress, 25
Perceptive type, of personality, 246, 250
and listening, 191
Perceptual illusion, 83
Perfectionism, 17-18
Performance, lecture as, 93-99
preparation for, 94-95
Perry's theory of cognitive development, 269-280
Personality type(s)
distribution of, in engineering, 255-257
history of type theory, 245-246
of instructor, and ratings, 317
and learning, 244-259
Personalized system of instruction (PSI), 133-135
Piaget's theory of cognitive development, 264-268
Piggybacking, 18
Plagiarism, 236, 238
Plan step, of problem-solving, 71
Plus-minus-interesting (PMI) approach, 74, 84
"Pop" quiz, 216
Positions, in intellectual development, 270-275
Postdoctoral position, 349
Practice-theory-practice learning model, 279
Predictors, grades as, 229-230
Preoperational period, 265
Prerequisite(s), 32
as corequisite, in independent study, 138
"Presenting problem," 203, 204
Priorities
ABC system, 12-13
setting of, and efficiency, 11
Probes, 193
Problem-solving
blocks to, 75
concept map of, 67
in constructivism, 286
by discussion, 118
format for, 76-77
getting unstuck, 73-75
MBTI model for, 263
novice and expert, 68-70
overview of, 66-68
strategies for, 70-72
taxonomy for, 53
teaching, 75-79
and tutoring, 199
Procedural knowledge, 273
Procrastination
in instructor-paced mastery course, 136-137
in projects, 228
in self-paced instruction, 135
Proctor(s)
costs of, 135
for testing, 221, 236
undergraduate, 133
Professionalism, and ethics, 241
Professor(s)
as behavior model, 6
changing jobs, 351-352
changing role of, 337
cognitive style of, 296
establishing professional demeanor, 42-43
faculty environment, 331-337
form of address, 36-37
and master teachers, 93
as new faculty member, 42-43
and peer consultation, 42, 308, 319
personal revelation in lecture, 104
professional concerns of, 324-347
as research advisor, 205-210
role of
in discussion, 119
in formal learning group, 125
in guided design, 177
self-rating of, 314, 319
shortage of, 336
and student ratings, 316-317
See also Teaching

Programming, computer, 154
Project Athena (MIT), 159
Projector, overhead, 97-98
Projects, 228-229
Promotion
    criteria for, 327-330
    increasing odds of, 330-331
    structure of process, 326
    and student evaluations, 308
    and teaching 3
Props, for lecture, 97-98
Psychological Types (Jung), 245, 246
Psychomotor domain, 52
Public Broadcasting System (PBS), 145
Publishing
    and teaching quality, 334
    and tenure, 327-329
Punishing style, 5

Q

Questions, and lecture method, 99-103
"Quiz shows," 130

R

Rational emotive therapy (RET), 25, 29-30
Reading assignments, 227
Real-life projects, 174-175
Receiving, of information, 51
Reflection versus impulsivity, 288
Reflective observation, 292, 294
Regrades, 224-226, 240
Rehearsal, for lecture, 94
Relativism: commitment foreseen position, 274-275
Relativism position, 273-274
Relaxation techniques, 25-26
Reliability
    of MBTI, 259
    of student ratings, 312-313
Required courses, 32
Research
    development in, 339
    efficiency in, 22-24
    plan for, 349
    and quality of teaching, 335-336
    and teaching correlation, 3
    and tenure, 327-329
Research advisor, 205-210
    for graduate student, 206-210
    for undergraduate, 206
Research group, 208
Research proposal, 23-24, 209-210
Residence halls, and pluralism, 270, 279, 299
Responding to information, 51
Resumé, writing of, 348-350
Retention, of learning, 116, 291-292
Retention, of students, and type theory, 255
Retreat, cognitive, 276
Reversal process, 81-82
Rhetorical question, 101
Right brain/left brain dominance
    and creativity, 83
    and McCarthy's learning system, 294
Routines, 53

S

Scientific learning cycle, 268, 286-288
Secretary, and work habits, 15
Security, during testing, 220-221, 236
Seating arrangement, 37
Self-actualization, 301
Self-feedback, 151
Self-paced instruction, 133-135
    problems of, 135
Seminar, 32
Sensorimotor period, 265
Sensing type, of personality, 246, 248-249
    and engineering education, 253
Separate knowledge, 273, 275
Serial learning, 289-290
Service, 339-340
Sexual exploitation, 341
Short-answer test, 219
Show cause, 62
Silence, as encouragement, 193
Simulation mode, of CAI, 157
Skills course, 178-179
Small Group Instructional Diagnosis (SGID) method, 318
Socratic approach, 102
    group-based, 125
Software, computer, 153-156
    CAD programs, 156
    equation-solving programs, 154-155
    simulation programs, 156
    symbolic algebra programs, 155-156
    "20-80 rule," 153
Speakerphone, 146
Speaking skills, 96
Spreadsheets, 17, 153-154
Stage direction, in lecture notes, 94
Standard scores, 223-224
Stem, of multiple-choice question, 219
Strategy, 53
    compared to tactics, 27

Stress
and cheating, 236
in faculty, 334
handling of, 24-26
and tests, 214, 216, 217, 220
Structured controversy, 127-128
Student(s)
adapting to level of, 42
as audience, 33
as evaluators, 307-308, 309-318
focus on, 191-192
fostering creativity in, 84
grade level
and field trips, 139
and tutoring, 148
graduate (*see* Graduate student)
guiding of, 6
nontraditional, 2
oral responses during class, 101-103
peer tutoring, 7
and Perry's theory of cognition, 269-280
problem-solving ability, 68-70
questions from 37, 39
retention of, and type theory, 255
Student Instructional Report (SIR), 310
Study groups, 226
Success, need for, 300-301
Summarizing, 193
Summative evaluation, 307-309
Symbolic algebra, computer program for, 155-156
Synectics approach, 82
Synthesis, cognitive, 50, 54, 132
in design course, 171

T

T score, 224, 225
Tactics, compared to strategy, 27
Teaching
activities, 294
affective elements, 5
class routines, 39-42
computer-aided instruction, 156-159
design courses, 170-173
See also Design course
dichotomous styles of, 288-290
discovery method, 78
efficiency in, 20-22
of ethics, 240-242
evaluation of, 306-323
See also Evaluation
and faculty growth, 338
the first class, 31-45
good, components of, 4-5
and intellectual growth, 278-279
and listening skills, 189-194
methods
and MBTI, 253-254
and media, 143, 144
selecting, 34
pendulum style of, 295
philosophy of, 5-6
and promotion, 329
and publication pressure, 334
reasons for instruction in, 1-3
and research pressures, 335-336
sample course outline, 353-354
the second class, 38-39
style, and objectives, 53-55
two-dimensional model of (Lowman), 4-5
See also Education; Professor
Teaching assistant
foreign student as, 16
as guest lecturer, 107
and homework problems, 21
and laboratory, 183
managing of, 15-16
office hours, 41, 111, 195
role of
in formal learning group, 125
in guided design, 177
in large class, 109-110
student ratings of, 316
as teaching evaluator, 307
and test scoring, 222, 223
and testing 221, 236
Technological media, 143-167
audiotutorial (AT), 161-163
computers (*see* Computer)
costs of, 146, 158, 161
guidelines for use, 144
interactive laser videodisc, 159-161
television and video, 145-147
Television
advantages of, 145-146
drawbacks of, 146
instructional hints for, 149-150
Temporizing, 276
Tentative course schedule, 20, 35, 37
Tenure, 324-326
criteria for, 327-330
1989 National Survey of Faculty, 328
and service, 330
and teaching, 3
Term introduction phase, of learning cycle, 287
Test files, 218, 236

Testing, 213-214
administering test, 220-221
critique of test, 223-224
final exams, 215-216
grid for preparation, 216-217
methods of, 40
open book, 217, 236
postlecture quiz, 105-106
reasons for, and frequency of, 214-216
regrades, 224-226
scoring, 221-224
security, 220-221, 236
standardized, 320
writing problems and questions, 217-220
See also Evaluation; Grading; specific type of test
Textbook, 56-60
advantages of using, 56-57
choice of, 35, 37, 57-59
ethics of choice, 341
and lecture method, 92
publish-on-demand, 59
writing of, 59-60
Textbook Author's Association, 60
Thinking type, of personality, 249-250
and listening, 191
Thought
convergent and divergent, 75, 295-296
independence of, 273
Time, and design course, 173
Timing, in lecture, 98-99
To-do list, 13-14
Touch-type (*see* Keyboarding)
Transcendental meditation (TM), 26
Transformation, as cognitive process, 267-268
Travel, 18-20
Trial-and-error, 70
Troubleshooting, 200
Tutorial mode, of CAI, 157
Tutoring
advantages and disadvantages of, 195-196
compared to lecturing, 196, 197
defined, 194
goals of, 196-197
locations for, 195
methods for improving, 197-200
by peers, 7
problems of, 200
by telephone, 195
with videotaped instruction, 148-149
Type, defined, 245

V

Validity
of MBTI, 259
of student ratings, 313-315
Valuing, 51-52
Variety, in lecture, 95-96
Videotapes, 147
as evaluation, 320
for feedback to students, 150-151
instructional hints for, 149-150
tutored instruction, 148-149
Visiting, 14-15
Visual learning, 6-7, 291

W

Whimbey-Lochhead pair method, 77-78
as cooperative group method, 121
Women
and discussion format, 119
as doctoral recipients, 336
as faculty, 338
and field sensitivity, 289
and group dynamics, 124, 126
as nontraditional engineering students, 2
and Perry's cognition theory, 269, 270
and personality type, 257
and subjectivisim, 272
Word processing, 16-17
Work environment, 18
Work ethic, 297
Work habits, 14-18
` and computer use, 16-17
controlling interruptions, 14-15
rewards and breaks, 18
Writing, and creativity, 82

Z

z score, 224, 225