Appendix B

Domains, Taxonomies, Intelligences, and Pathwise

Four Domains of Learning

Four domains of learning allow teachers to teach the whole child. The four domains include cognitive (thinking), psychomotor (doing), affective (feeling), and psychosocial (being). In 1950, Erickson authored the psychosocial stages of development in *Childhood and Society.* In 1956 Bloom authored the *Taxonomy of Educational Objectives: Handbook I: The Cognitive Domain.* Then in 1964, Krathwohl, Bloom, and Masia coauthored the *Taxonomy of Educational Objectives: Handbook II: The Affective Domain.* Finally, in 1972, Harrow authored the *Taxonomy of Psychomotor Domain: A Guide for Developing Behavior Objectives*, and Simpson authored *The Classification of Educational Objectives in the Psychomotor Domain.*

Focus On Cognitive Thinking

The cognitive domain involves knowledge and the development of intellectual skills. This domain includes the recall or recognition of specific facts, procedural patterns, and major concepts that serve in the development of intellectual abilities and skills. The cognitive domain extends to include ideational functions of imagination and creativity.

Category	Definition	Key Verbs
Knowledge	Recall data or information	arrange, count, define, describe, duplicate, identify, know, label, list, match, memorize, name, order, outline, quote, recall, recite, recognize, relate, repeat, reproduce, select, state
Comprehension	Understand the meaning, translation, interpolation, and interpretation of instructions, content, data, situations, and problems; state information in one's own words	classify, compare, comprehend, contrast, convert, defend, describe, discuss, distinguish, estimate, explain, express, extend, generalize, give examples, indicate, infer, interpret, locate, paraphrase, predict, recognize, report, restate, review, revise, rewrite, summarize, translate
Application	Use a concept in a new situation or unprompted use of an abstraction; apply what was learned in the classroom into new and different situations	apply, calculate, change, choose, compute, construct, demonstrate, discover, dramatize, employ, illustrate, interpret, manipulate, modify, operate, perform, practice, predict, prepare, produce, relate, schedule, show, sketch, solve, use, write
Analysis	Separate material or concepts into parts so that its organizational structure may be understood; distinguish between facts and inferences	analyze, appraise, break down, calculate, categorize, chart, compare, contrast, criticize, deconstruct, diagram, differentiate, discriminate, distinguish, examine, experiment, identify, illustrate, infer, outline, question, relate, select, separate, subdivide, test
Synthesis	Build a structure or pattern from diverse elements; put parts together to form a whole with emphasis on creating a new meaning or structure	apply, arrange, assemble, build, categorize, collect, combine, compile, compose, construct, create, design, develop, devise, erect, explain, formulate, generalize, generate, group, include, infuse, integrate, manage, modify, organize, plan, prepare, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, set up, summarize, tell, write

Category	Definition	Key Verbs
Evaluation	Make judgments about the value of ideas or materials	appraise, argue, assess, attach, choose, compare, conclude, contrast, criticize, critique, defend, describe, discriminate, estimate, evaluate, explain, finalize, guess, hypothesize, interpret, judge, justify, predict, rank, rate, recommend, relate, select, summarize, support, value

Integrate Psychomotor Activities

The psychomotor domain includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The psychomotor domain expands into a sensorimotor domain, incorporating five senses along with balance, spatial relationships, movement, and other physical activity.

Category	Definition	Key Verbs
Perception	Ability to use sensory cues to guide motor activity ranging from sensory stimulation, through cue selection, to translation	choose, describe, detect, differentiate, distinguish, identify, isolate, relate, select
Set	Readiness to act using mental, physical, and emotional sets dispositions that predetermine a person's response to different situations (sometimes called mindsets)	begin, display, explain, move, proceed, react, show, start, state, volunteer
Guided Response	Early stages in learning a complex skill that includes imitation and trial and error; adequacy of performance is achieved by practicing	copy, echo, follow, mimic, react, repeat, reply, reproduce, respond, trace

Category	Definition	Key Verbs
Mechanism	Intermediate stage in learning a complex skill; learned responses become habitual, and movements can be performed with some confidence and proficiency	assemble, calibrate, construct, dismantle, display, fasten, fix, grind, heat, manipulate, measure, mend, mix, organize, sketch
Complex Overt Response	Skillful performance of motor acts that involve complex movement patterns; proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy including performing without hesitation and automatic performance	assemble, build, calibrate, construct, dismantle, display, fasten, fix, grind, heat, manipulate, measure, mend, mix, organize, sketch
Adaptation	Skills are well developed and the individual can modify movement patterns to fit special requirements	adapt, alter, change, rearrange, reorder, reorganize, revise, vary
Origination	Abilities to create and appreciate new movement patterns to fit a particular situation or specific problem; learning outcomes emphasize creativity based upon highly developed skills	arrange, build, combine, compose, construct, create, design, initiate, make, mix, originate

Psychosocial Domain

Category	Definition	Key Verbs
Trust	Confidence in one's self, others, and the system that safety and goodness will occur	assume, bank on, be sure about, believe, commit, confide, count on, depend, entrust, expect, hope, presume, rely, show responsibility, suppose
Autonomy	Independence and self-sufficiency	demonstrate impartiality, express fairness and individuality, free, liberate, self-determine, self-govern, self-rely, self-rule
Initiative	Resourcefulness, ingenuity, and enterprise	brainstorm, construct, create, design, develop, invent, lead, plan, project, propose, scheme, will

Category	Definition	Key Verbs
Industry	Competence, conscientiousness, diligence, self-discipline	accomplish, achieve, administer, assess, carry out, check, complete, conclude, control, cope, deal with, detail, end, examine, finish, fulfill, handle, manage, monitor, observe, oversee, perfect, realize, recognize, supervise, survive, take responsibility, watch
Self-awareness; Self-identity	Attentiveness; distinct characteristics and personality, fidelity; intimacy, love	adore, attend, concentrate, detect, discern, feel, focus, like, listen, love, notice, perceive, reflect, respond, see, think
Positive relationships	Caring	aid, alleviate, ameliorate, assist, befriend, care, facilitate, heed, help, mind, relieve, worry
Self-satisfaction, wisdom, and change	Confidence in one's self, others, and the system that safety and goodness will occur; independence and self-sufficiency	adjust, advocate, alter, amend, assure, believe, challenge, comply, convert, dare, decide, defy, edit, fulfill, gratify, modify, offer, please, promote, provoke, revise, revolutionize, satiate, satisfy, sponsor, suit, support, switch, take action, trade, transform, trust, try, vary

Involve Affective Influences

The affective domain includes the manners we interact with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The affective domain extends to include internalization, wonder, and risk taking.

Category	Definition	Key Verbs
Receiving	Awareness, willingness to hear, selected attention	ask, choose, describe, follow, give, hold, identify, listen, locate, name, point to, reply, select, sit, use
Responding	Active participation on the part of the learners; attends and	aid, answer, assist, comply, conform, discuss, greet,

Category	Definition	Key Verbs
	reacts to a particular phenomenon; learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding and motivation	help, label, participate, perform, practice, present, question, read, recite, report, select, tell, write
Valuing	Worth or value a person attaches to a particular object, phenomenon, or behavior, ranging from simple acceptance to the more complex state of commitment; valuing is based on the internalization of a set of specified values, while clues to these values are expressed in the learner's overt behavior and are often identifiable	complete, demonstrate, differentiate, explain, follow, form, initiate, invite, join, justify, propose, read, report, select, share, solve problems, study, work, value cultural differences
Organization	Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating unique value systems with emphases on comparing, relating, and synthesizing values	accept responsibilities, adhere, alter, arrange, combine, compare, complete, defend, explain, formulate, generalize, identify, integrate, model professionalism, modify, order, organize, prepare, prioritize, relate, synthesize
Internalizing Values	Value system that controls individuals' behaviors in ways that are pervasive, consistent, and predictable, characteristic of the learner; patterns of adjustment that are personal, social, and emotional	act, discriminate, display, influence, listen, modify, perform, practice, propose, qualify, question, remain objective, revise, serve, solve, value people, verify, work independently

Marzano's Taxonomy

Marzano's (2000) taxonomy offers you a different organization for developing your curriculum, designing your instruction, and collecting your formative assessments. You can check the learning within each of Marzano's systems as well as the knowledge domain.

Marzano's taxonomy can be viewed as:

Self-System		
Beliefs about the importance of knowledge	Beliefs about efficacy	Emotions associated with knowledge

Metacognitive System			
Specifying learning goals	Monitoring the execution of knowledge	Monitoring clarity	Monitoring accuracy

Cognitive System			
• Knowledge retrieval • Recall • Execution	• Comprehension • Synthesis • Representation	• Analysis • Matching • Classifying • Error analysis • Generalizing • Specifying	• Knowledge utilization • Decision making • Problem solving • Experimental inquiry • Investigation

Knowledge Domain		
Information	Mental Procedures	Physical Procedures

Gardner's Multiple Intelligences

Gardner (1993) identified an array of eight different ways that people have individual strengths in how they learn best, prefer to express themselves, and feel most comfortable in the world. The eight ways are called Multiple Intelligences. Some people demonstrate their strengths in one of the areas while other people show proclivities in more than one area. Classroom teachers should help develop performance-based assessments in all eight of the multiple intelligences in all learners, building upon strengths and nurturing weaker areas. Here are ideas for each of the eight intelligences.

Multiple Intelligence	Definition	Assessment Ideas
Linguistic	Word smart	• Book making • Choral speaking • Drama

Multiple Intelligence	Definition	Assessment Ideas
		• Fiction • Journals • Listening • Nonfiction • Oral reading • Plays • Poems • Process writing • Readers' theater • Rehearsed reading • Reports • Research • Retelling • Scripts • Speaking • Stories • Story telling
Logical-Mathematical	Number/reasoning smart	• Attributes • Category • Classification • Codes • Critical thinking • Data collection • Experiments • Geometry • Logic games • Manipulatives • Measurement • Money • Predictions • Problem solving • Puzzles • Scientific models • Sequences • Serials • Tangrams • Time

Multiple Intelligence	Definition	Assessment Ideas
Spatial	Picture smart	- Captions - Charts - Color - Drawings - Graphs - Illustrations - Maps - Mind maps - Paintings - Patterns - Photography - Sketches - Story maps - Symbols 3-D experiences - Visual analogies - Visual awareness - Visual metaphors - Visual puzzles - Visuals
Bodily-Kinesthetic	Body smart	- Activities - Athletics - Body language - Crafts - Creative movement - Dance - Dramas - Experiments - Field trips - Hands-on activities - Physical education - Sports
Musical	Music smart	- Background music - Humming - Mood music - Music appreciation

Multiple Intelligence	Definition	Assessment Ideas
		• Patterns • Playing instruments • Rap • Rhythm • Singing
Interpersonal	People smart	• Brainstorming • Clubs • Conflict mediation • Cooperative learning • Cross-age tutoring • Discussion • Etiquette • Manners • Peer editing • Peer teaching • Sharing • Social awareness • Social gatherings • Study group
Intrapersonal	Self-smart	• Collections • Diaries • Goal setting • Individual projects • Individual reading • Individual study • Journals or logs • Personal choices • Personal response • Self-esteem activities
Naturalist	Nature smart	• Art • Auditory • Awareness of nature • Balance of nature and humans • Community • Kinesthetic

Multiple Intelligence	Definition	Assessment Ideas
		- Movement - Music - Rhythm - Sensory input - Technology as a tool - Visuals

Danielson's Four Pathwise Domains of Teaching

Danielson (1996) constructed four domains to help teachers as they prepare to become professionals and once they are in the classroom to expand their expertise. Some states require teachers to pass the Praxis III, a performance-based teaching experience based on the following criteria.

PATHWISE—Domains, Components, and Elements

Domain 1: Planning and Preparation

1a: Demonstrating Knowledge of Content and Pedagogy

- Knowledge of content and the structure of the discipline
- Knowledge of prerequisite relationships
- Knowledge of content-related pedagogy

1b: Demonstrating Knowledge of Students

- Knowledge of child and adolescent development
- Knowledge of the learning process
- Knowledge of students' skills, knowledge, and language proficiency
- Knowledge of students' interests and cultural heritages
- Knowledge of students' special needs

1c: Setting Instructional Outcomes

- Value, sequence, and alignment
- Clarity

- Balance
- Suitability for diverse learners

1d: Demonstrating Knowledge of Resources

- Resources for classroom use
- Resources to extend content knowledge and pedagogy
- Resources for students

1e: Designing Coherent Instruction

- Learning activities
- Instructional materials and resources
- Instructional groups
- Lesson and unit structures

1f: Designing Student Assessments

- Congruence with instructional outcomes
- Criteria and standards
- Design of formative assessments
- Use for planning

Domain 2: The Classroom Environment

2a: Creating an Environment of Respect and Rapport

- Teacher interactions with students
- Student interactions with other students

2b: Establishing a Culture for Learning

- Importance of the content
- Expectations for learning and achievement
- Student pride in work

2c: Managing Classroom Procedures

- Expectations
- Monitoring of student behavior
- Response to student misbehavior

2d: Managing Student Behavior

- Safety and accessibility
- Arrangement of furniture and use of physical resources

2e: Organizing Physical Space

- Expectations for learning
- Directions and procedures
- Explanations of content
- Use of oral and written language

Domain 3: Instruction

3a: Communicating With Students

- Expectations for learning
- Directions and procedures
- Explanations of content
- Use of oral and written language

3b: Using Questioning and Discussion Techniques

- Quality of questions
- Discussion techniques
- Student participation

3c: Engaging Students in Learning

- Activities and assignments
- Grouping of students
- Instructional materials and resources
- Structure and pacing

3d: Using Assessment in Instruction

- Assessment criteria
- Monitoring of student learning
- Feedback to students
- Student self-assessment and monitoring of progress

3e: Demonstrating Flexibility and Responsiveness

- Lesson adjustment
- Response to students
- Persistence

Domain 4: Professional Responsibilities

4a: Reflecting on Teaching

- Accuracy
- Use in future teaching

4b: Maintaining Accurate Records

- Student completion of assignments
- Student progress in learning
- Noninstructional records

4c: Communicating With Families

- Information about the instructional program
- Information about individual students
- Engagement of families in the instructional program

4d: Participating in a Professional Community

- Relationships with colleagues
- Involvement in a culture of professional inquiry
- Service to the school
- Participation in school and district projects

4e: Growing and Developing Professionally

- Enhancement of content knowledge and pedagogical skills
- Receptivity to feedback from colleagues
- Service to the profession

4f: Showing Professionalism

- Integrity and ethical conduct
- Service to students
- Advocacy
- Decision making
- Compliance with school and district regulations