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# 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.

<i>Category</i>	<i>Definition</i>	<i>Key Verbs</i>
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

<i>Category</i>	<i>Definition</i>	<i>Key Verbs</i>
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, diagram, deconstruct, 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	arrange, apply, 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
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.

<i>Category</i>	<i>Definition</i>	<i>Key Verbs</i>
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, reproduce, respond, reply, trace
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

<i>Category</i>	<i>Definition</i>	<i>Key Verbs</i>
Trust	Confidence in one's self, others, and the system that safety and goodness will occur	assume, bank on, believe, commit, confide, count on, depend, entrust, expect, hope, be sure about, presume, rely, show responsibility, suppose
Autonomy	Independence and self-sufficiency	express fairness and individuality, free, demonstrate impartiality, 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
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, discern, detect, feel, focus, like, listen, love, notice, perceive, reflect, respond, see, think
Positive relationships	Caring	aid, ameliorate, alleviate, 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	advocate, adjust, 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 in which 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.

<i>Category</i>	<i>Definition</i>	<i>Key Verbs</i>
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 reacts to a particular phenomenon; learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding and motivation	answer, assist, aid, comply, conform, discuss, greet, 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:

<i>Self-System</i>			
Beliefs about the importance of knowledge	Beliefs about efficacy	Emotions associated with knowledge	
<i>Metacognitive System</i>			
Specifying learning goals	Monitoring the execution of knowledge	Monitoring clarity	Monitoring accuracy
<i>Cognitive System</i>			
Knowledge retrieval	Comprehension	Analysis	Knowledge utilization
Recall Execution	Synthesis Representation	Matching Classifying Error analysis Generalizing Specifying	Decision making Problem solving Experimental inquiry Investigation
<i>Knowledge Domain</i>			
Information	Mental Procedures	Physical Procedures	

## **GARDNER'S MULTIPLE INTELLIGENCES**

Gardner (1993) identified an array of eight different ways that people demonstrate 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 area, 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 for all students, building upon strengths and improving weaker areas. Here are assessment ideas for each of the eight intelligences:

<i>Multiple Intelligence</i>	<i>Definition</i>	<i>Assessment Ideas</i>
Linguistic	Word smart	<ul style="list-style-type: none"> <li>• Book making</li> <li>• Choral speaking</li> <li>• Drama</li> <li>• Fiction</li> <li>• Journals</li> <li>• Listening</li> <li>• Nonfiction</li> <li>• Oral reading</li> <li>• Plays</li> <li>• Poems</li> <li>• Process writing</li> <li>• Readers' theater</li> <li>• Rehearsed reading</li> <li>• Reports</li> <li>• Research</li> <li>• Retelling</li> <li>• Scripts</li> <li>• Speaking</li> <li>• Stories</li> <li>• Story telling</li> </ul>
Logical-mathematical	Number/reasoning smart	<ul style="list-style-type: none"> <li>• Attributes</li> <li>• Category</li> <li>• Classification</li> <li>• Codes</li> <li>• Critical thinking</li> <li>• Data collection</li> <li>• Experiments</li> <li>• Geometry</li> <li>• Logic games</li> <li>• Manipulatives</li> <li>• Measurement</li> <li>• Money</li> <li>• Predictions</li> <li>• Problem solving</li> <li>• Puzzles</li> <li>• Scientific models</li> <li>• Sequences</li> <li>• Serials</li> <li>• Tangrams</li> <li>• Time</li> </ul>
Spatial	Picture smart	<ul style="list-style-type: none"> <li>• Captions</li> <li>• Charts</li> <li>• Color</li> </ul>

<i>Multiple Intelligence</i>	<i>Definition</i>	<i>Assessment Ideas</i>
		<ul style="list-style-type: none"> <li>• Drawings</li> <li>• Graphs</li> <li>• Illustrations</li> <li>• Maps</li> <li>• Mind maps</li> <li>• Paintings</li> <li>• Patterns</li> <li>• Photography</li> <li>• Sketches</li> <li>• Story maps</li> <li>• Symbols</li> <li>• 3-D experiences</li> <li>• Visual analogies</li> <li>• Visual awareness</li> <li>• Visual metaphors</li> <li>• Visual puzzles</li> <li>• Visuals</li> </ul>
Bodily-Kinesthetic	Body smart	<ul style="list-style-type: none"> <li>• Activities</li> <li>• Body language</li> <li>• Athletics</li> <li>• Creative movement</li> <li>• Crafts</li> <li>• Dance</li> <li>• Dramas</li> <li>• Experiments</li> <li>• Field trips</li> <li>• Hands-on activities</li> <li>• Physical education</li> <li>• Sports</li> </ul>
Musical	Music smart	<ul style="list-style-type: none"> <li>• Background music</li> <li>• Humming</li> <li>• Mood music</li> <li>• Music appreciation</li> <li>• Patterns</li> <li>• Playing instruments</li> <li>• Rap</li> <li>• Rhythm</li> <li>• Singing</li> </ul>
Interpersonal	People smart	<ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Clubs</li> <li>• Cooperative learning</li> <li>• Conflict mediation</li> <li>• Cross-age tutoring</li> </ul>



<i>Multiple Intelligence</i>	<i>Definition</i>	<i>Assessment Ideas</i>
Intrapersonal	Self-smart	<ul style="list-style-type: none"> <li>• Discussion</li> <li>• Etiquette</li> <li>• Manners</li> <li>• Peer editing</li> <li>• Peer teaching</li> <li>• Sharing</li> <li>• Social awareness</li> <li>• Social gatherings</li> <li>• Study group</li> <li>• Collections</li> <li>• Diaries</li> <li>• Goal setting</li> <li>• Individual projects</li> <li>• Individual reading</li> <li>• Individual study</li> <li>• Journals or logs</li> <li>• Personal choices</li> <li>• Personal response</li> <li>• Self-esteem activities</li> </ul>
Naturalist	Nature smart	<ul style="list-style-type: none"> <li>• Art</li> <li>• Auditory</li> <li>• Awareness of nature</li> <li>• Balance of nature and humans</li> <li>• Community</li> <li>• Kinesthetic</li> <li>• Movement</li> <li>• Music</li> <li>• Rhythm</li> <li>• Sensory input</li> <li>• Technology as a tool</li> <li>• Visuals</li> </ul>

## **DANIELSON'S FOUR PATHWISE DOMAINS OF TEACHING**

Danielson (1996) constructed four domains to help teachers to expand their expertise as they prepare to become professionals and once they are in the classroom. 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