Chapter 1 : Learning Domains or Bloom's Taxonomy

These domains are cognitive (thinking), affective (emotion/feeling), and psychomotor (physical/kinesthetic). Each domain on this page has a taxonomy associated with it. Taxonomy is simply a word for a classification.

The Psychomotor Domain The psychomotor domain Simpson, 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. Thus, psychomotor skills rage from manual tasks, such as digging a ditch or washing a car, to more complex tasks, such as operating a complex piece of machinery or dancing. The seven major categories are listed from the simplest behavior to the most complex: Category Example and Key Words verbs Perception awareness: The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation. Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of stove to correct temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet. It includes mental, physical, and emotional sets. Knows and acts upon a sequence of steps in a manufacturing process. Shows desire to learn a new process motivation. The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing. Performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds hand-signals of instructor while learning to operate a forklift. This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency. Use a personal computer. Repair a leaking faucet. Complex Overt Response Expert: The 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. This category includes performing without hesitation, and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce. Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano. The Key Words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc. Skills are well developed and the individual can modify movement patterns to fit special requirements. Responds effectively to unexpected experiences. Modifies instruction to meet the needs of the learners. Perform a task with a machine that it was not originally intended to do machine is not damaged and there is no danger in performing the new task. Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills. Constructs a new theory. Develops a new and comprehensive training programming. Creates a new gymnastic routine. Other Psychomotor Domain Taxonomies As mentioned earlier, the committee did not produce a compilation for the psychomotor domain model, but others have. The one discussed above is by Simpson There are two other popular versions by Dave and Harrow Example and Key Words verbs Imitation â€" Observing and patterning behavior after someone else. Performance may be of low quality. Copying a work of art. Performing a skill while observing a demonstrator. Performing a skill within a high degree of precision Examples: Demonstrate a task to a beginner. Combining a series of skills to produce a video that involves music, drama, color, sound, etc. Combining a series of skills or activities to meet a novel requirement. Michael Jordan playing basketball or Nancy Lopez hitting a golf ball.

Chapter 2 : The other two learning domains | College of Nursing Technical Support

Bloom's Taxonomy of Learning Domains. Bloom's Taxonomy was created in under the leadership of educational psychologist Dr Benjamin Bloom in order to promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts (rote learning).

History[edit] Although named after Bloom, the publication of Taxonomy of Educational Objectives followed a series of conferences from to , which were designed to improve communication between educators on the design of curricula and examinations. Cognitive [1] was published in , and in the second volume Handbook II: Its characteristics may include: Knowledge of specificsâ€"terminology, specific facts Knowledge of ways and means of dealing with specificsâ€"conventions, trends and sequences, classifications and categories, criteria, methodology Knowledge of the universals and abstractions in a fieldâ€"principles and generalizations, theories and structures Example: Name three common varieties of apple. Comprehension[edit] Comprehension involves demonstrating understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating the main ideas. Compare the identifying characteristics of a Golden Delicious apple with a Granny Smith apple. Application[edit] Application involves using acquired knowledgeâ€"solving problems in new situations by applying acquired knowledge, facts, techniques and rules. Learners should be able to use prior knowledge to solve problems, identify connections and relationships and how they apply in new situations. Would apples prevent scurvy, a disease caused by a deficiency in vitamin C? Analysis[edit] Analysis involves examining and breaking information into component parts, determining how the parts relate to one another, identifying motives or causes, making inferences, and finding evidence to support generalizations. Analysis of elements Analysis of relationships Analysis of organization Example: List four ways of serving foods made with apples and explain which ones have the highest health benefits. Provide references to support your statements. Synthesis[edit] Synthesis involves building a structure or pattern from diverse elements; it also refers to the act of putting parts together to form a whole. Production of a unique communication Production of a plan, or proposed set of operations Derivation of a set of abstract relations Example: Convert an "unhealthy" recipe for apple pie to a "healthy" recipe by replacing your choice of ingredients. Explain the health benefits of using the ingredients you chose vs. Evaluation[edit] Evaluation involves presenting and defending opinions by making judgments about information, the validity of ideas, or quality of work based on a set of criteria. Judgments in terms of internal evidence Judgments in terms of external criteria Example: Which kinds of apples are best for baking a pie, and why? Affective objectives typically target the awareness and growth in attitudes , emotion, and feelings. There are five levels in the affective domain moving through the lowest-order processes to the highest. Receiving[edit] The lowest level; the student passively pays attention. Without this level, no learning can occur. Responding[edit] The student actively participates in the learning process, not only attends to a stimulus; the student also reacts in some way. Valuing[edit] The student attaches a value to an object, phenomenon, or piece of information. The student associates a value or some values to the knowledge they acquired. The student at this level tries to build abstract knowledge. The psychomotor domain action-based [edit] Skills in the psychomotor domain describe the ability to physically manipulate a tool or instrument like a hand or a hammer. Bloom and his colleagues never created subcategories for skills in the psychomotor domain, but since then other educators have created their own psychomotor taxonomies. Perception[edit] The ability to use sensory cues to guide motor activity: This ranges from sensory stimulation, through cue selection, to translation. Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of the stove to correct temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet. Set[edit] Readiness to act: It includes mental, physical, and emotional sets. This subdivision of psychomotor is closely related with the "responding to phenomena" subdivision of the affective domain.

Knows and acts upon a sequence of steps in a manufacturing process. Recognizes his or her abilities and limitations. Shows desire to learn a new process motivation. Guided response[edit] The early stages of learning a complex skill that includes imitation and trial and error: Adequacy of performance is achieved by practicing. Performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds to hand-signals of the instructor while learning to operate a forklift. Mechanism[edit] The intermediate stage in learning a complex skill: Learned responses have become habitual and the movements can be performed with some confidence and proficiency. Use a personal computer. Repair a leaking tap. Complex overt response[edit] The 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. This category includes performing without hesitation and automatic performance. For example, players will often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football because they can tell by the feel of the act what the result will produce. Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano. The key words are the same as in mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc. Adaptation[edit] Skills are well developed and the individual can modify movement patterns to fit special requirements. Responds effectively to unexpected experiences. Modifies instruction to meet the needs of the learners. Performs a task with a machine that was not originally intended for that purpose the machine is not damaged and there is no danger in performing the new task. Origination[edit] Creating new movement patterns to fit a particular situation or specific problem: Learning outcomes emphasize creativity based upon highly developed skills. Constructs a new set or pattern of movements organized around a novel concept or theory. Develops a new and comprehensive training program. Creates a new gymnastic routine. Definition of knowledge[edit] In the appendix to Handbook I, there is a definition of knowledge which serves as the apex for an alternative, summary classification of the educational goals. This is significant as the taxonomy has been called upon significantly in other fields such as knowledge management, potentially out of context.

Chapter 3 : Bloom's Taxonomy: The Psychomotor Domain

Learning can generally be categorized into three domains: cognitive, affective, and psychomotor. Within each domain are multiple levels of learning that progress from more basic, surface-level learning to more complex, deeper-level learning.

Synthesis Evaluation The categories can be thought of as degrees of difficulties. That is, the first ones must normally be mastered before the next one can take place. This new taxonomy reflects a more active form of thinking and is perhaps more accurate. Recall or retrieve previous learned information. Quote prices from memory to a customer. Recite the safety rules. Comprehending the meaning, translation, interpolation, and interpretation of instructions and problems. Rewrite the principles of test writing. Translate an equation into a computer spreadsheet. Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place. Apply laws of statistics to evaluate the reliability of a written test. Separates material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences. Troubleshoot a piece of equipment by using logical deduction. Recognize logical fallacies in reasoning. Gathers information from a department and selects the required tasks for training. Fishbowls , debating, questioning what happened, run a test Evaluating: Make judgments about the value of ideas or materials. Select the most effective solution. Hire the most qualified candidate. Explain and justify a new budget. Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure. Write a company operations or process manual. Design a machine to perform a specific task. Integrates training from several sources to solve a problem. Revises and process to improve the outcome. Procedural - How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods. In addition, they added another level of knowledge - metacognition: When the cognitive and knowledge dimensions are arranged in a matrix, as shown below, it makes a nice performance aid for creating performance objectives:

Chapter 4 : Psychomotor Domain - The Peak Performance Center

Cognitive, Affective, and Psychomotor Domains. Grading. Assignments are graded at the level indicated on the assignment. Generally, in Pharm , higher cognitive levels are expected (e.g., application and higher).

I hope readers will explore the differences and additions through the links provided on this page. This diversity helps to create more well-rounded learning experiences and meets a number of learning styles and learning modalities. Using more diversity in delivering lessons also helps students create more neural networks and pathways thus aiding recall. These subsets were arranged into a taxonomy and listed according to the cognitive difficulty â€" simpler to more complex forms. Remember while it is good to understand the history of the older version of this domain, the newer version has a number of strong advantages that make it a better choice for planning instruction today. One of the major changes that occurred between the old and the newer updated version is that the two highest forms of cognition have been reversed. In the newer version the steps change to verbs and are arranged as knowing, understanding, applying, analyzing, evaluating, and the last and highest function, creating. Remembering or retrieving previously learned material. Examples of verbs that relate to this function are: Remembering is when memory is used to produce or retrieve definitions, facts, or lists, or to recite previously learned information. The ability to grasp or construct meaning from material. Constructing meaning from different types of functions be they written or graphic messages, or activities like interpreting, exemplifying, classifying, summarizing, inferring, comparing, or explaining. The ability to use learned material, or to implement material in new and concrete situations. Carrying out or using a procedure through executing, or implementing. Applying relates to or refers to situations where learned material is used through products like models, presentations, interviews or simulations. The ability to break down or distinguish the parts of material into its components so that its organizational structure may be better understood. Breaking materials or concepts into parts, determining how the parts relate to one another or how they interrelate, or how the parts relate to an overall structure or purpose. Mental actions included in this function are differentiating, organizing, and attributing, as well as being able to distinguish between the components or parts. The ability to put parts together to form a coherent or unique new whole. Examples of verbs that relate to the synthesis function are: Making judgments based on criteria and standards through checking and critiquing. Critiques, recommendations, and reports are some of the products that can be created to demonstrate the processes of evaluation. In the newer taxonomy, evaluating comes before creating as it is often a necessary part of the precursory behavior before one creates something. The ability to judge, check, and even critique the value of material for a given purpose. Examples of verbs that relate to evaluation are: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing. Creating requires users to put parts together in a new way, or synthesize parts into something new and different thus creating a new form or product. This process is the most difficult mental function in the new taxonomy. There are many different types of graphics cleverly depicting the new versions that can be printed and readily used as everyday references during instructional planning. The Affective or Feeling Domain: Like cognitive objectives, affective objectives can also be divided into a hierarchy according to Krathwohl. This area is concerned with feelings or emotions. Again, the taxonomy is arranged from simpler feelings to those that are more complex. This domain was first described in and as noted before is attributed to David Krathwohl as the primary author. An acceptance, preference, or commitment to a value. As values or beliefs become internalized, the leaner organizes them according to priority. At this level the learner is capable of practicing and acting on their values or beliefs. Taxonomy of educational objectives, Book II. David McKay Company, Inc. As with all of the taxonomies, in labeling objectives using this domain there has to be a very clear instructional intention for growth in this area specified in the learning objective s. Folks in the sciences and in math often avoid including affective objectives stating that their areas are not emotional. However, any group work or cooperative exercise where

deportment, or collaborative or cooperative skills are discussed, used, and emphasized qualifies as having the potential for affective growth. Also, in areas of potential debate, where data allows students to draw conclusions about controversial topics or express opinions and feelings on those topics, this too can be tweaked so there is intentional affective growth. Since emotion draws both attention and channels strong residual memory, it behooves all dedicated and artful educators to include affective objectives, no matter what their discipline or area of study. The Psychomotor or Kinesthetic Domain Psychomotor objectives are those specific to discreet physical functions, reflex actions and interpretive movements. This area also refers to natural, autonomic responses or reflexes. It is interesting to note that while the cognitive taxonomy was described in , and the affective in , the psychomotor domain were not fully described until the s. And while I have chosen to use the work of Anita Harrow here, there are actually two other psychomotor taxonomies to choose from â€" one from E. Simpson and the other from R. See full citations and hyperlink below. As stated earlier, to avoid confusion, if the activity is simply something that is physical which supports another area â€" affective or cognitive â€" term the objective physical rather than psychomotor. Again, this goes to instructional intent. A primary example of something physical which supports specific cognitive development and skills might be looking through a microscope, and then identifying and drawing cells. Here the instructional intent of this common scientific activity is not to develop specific skilled proficiency in microscope viewing or in reproducing cells through drawing. Usually the key intent in this activity is that a physical action supports or is a vehicle for cognitive growth and furthering recognition skills. The learner is using the physical action to achieve the cognitive objectives â€" identify, recognize, and differentiate varied types of cells. If you are using a physical activity to support a cognitive or affective function, simply label it as something physical labeling the objective as kinesthetic, haptic, or tactile is also acceptable and avoid the term psychomotor. Certainly more complex learning objectives can be written so that they that meld 2 or 3 domains. Reflex movements Objectives at this level include reflexes that involve one segmental or reflexes of the spine and movements that may involve more than one segmented portion of the spine as intersegmental reflexes e. These movements are involuntary being either present at birth or emerging through maturation. Fundamental movements Objectives in this area refer to skills or movements or behaviors related to walking, running, jumping, pushing, pulling and manipulating. They are often components for more complex actions. Perceptual abilities Objectives in this area should address skills related to kinesthetic bodily movements , visual, auditory, tactile touch , or coordination abilities as they are related to the ability to take in information from the environment and react. Physical abilities Objectives in this area should be related to endurance, flexibility, agility, strength, reaction-response time or dexterity. Skilled movements Objectives in this area refer to skills and movements that must be learned for games, sports, dances, performances, or for the arts. These movements refer to interpretative movements that communicate meaning without the aid of verbal commands or help.

Chapter 5 : Key elements of behavioral, cognitive, affective, and collaborative learning theories

Affective domain is one of the three main domains of learning, with other two being cognitive and psychomotor. Affective domain includes feelings, emotions, attitudes, motivations, appreciation, etc.

This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The five major categories listed in order are: Awareness, willingness to hear, selected attention. Listen to others with respect. Listen for and remember the name of newly introduced people. 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 motivation. Participates in class discussions. Questions new ideals, concepts, models, etc. Know the safety rules and practices them. The worth or value a person attaches to a particular object, phenomenon, or behavior. This ranges from simple acceptance to the more complex state of commitment. Demonstrates belief in the democratic process. Is sensitive towards individual and cultural differences value diversity. Shows the ability to solve problems. Proposes a plan to social improvement and follows through with commitment. Informs management on matters that one feels strongly about. Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating an unique value system. The emphasis is on comparing, relating, and synthesizing values. Recognizes the need for balance between freedom and responsible behavior. Explains the role of systematic planning in solving problems. Accepts professional ethical standards. Creates a life plan in harmony with abilities, interests, and beliefs. Prioritizes time effectively to meet the needs of the organization, family, and self. Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Shows self-reliance when working independently. Uses an objective approach in problem solving. Revises judgments and changes behavior in light of new evidence. Values people for what they are, not how they look. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The seven major categories listed in order are: The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation. Detects non-verbal communication cues. Estimate where a ball will land after it is thrown and then moving to the correct location to catch the ball. Adjusts heat of stove to correct temperature by smell and taste of food. Adjusts the height of the forks on a forklift by comparing where the forks are in relation to the pallet. It includes mental, physical, and emotional sets. Knows and acts upon a sequence of steps in a manufacturing process. Shows desire to learn a new process motivation. This subdivision of Psychomotor is closely related with the "Responding to phenomena" subdivision of the Affective domain. The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing. Performs a mathematical equation as demonstrated. Follows instructions to build a model. Responds hand-signals of instructor while learning to operate a forklift. This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency. Use a personal computer. Repair a leaking faucet. The 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. This category includes performing without hesitation, and automatic performance. For example, players are often utter sounds of satisfaction or expletives as soon as they hit a tennis ball or throw a football, because they can tell by the feel of the act what the result will produce. Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano. The key words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc. Skills are well developed and the individual can modify movement patterns to fit special requirements. Responds effectively to unexpected experiences. Modifies instruction to meet the needs of the

learners. Perform a task with a machine that it was not originally intended to do machine is not damaged and there is no danger in performing the new task. Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills. Constructs a new theory. Develops a new and comprehensive training programming. Creates a new gymnastic routine. As mentioned earlier, the committee did not produce a compilation for the psychomotor domain model, but others have. The one discussed above is by Simpson There are two other popular versions: Observing and patterning behavior after someone else. Performance may be of low quality. Copying a work of art. Being able to perform certain actions by following instructions and practicing. Refining, becoming more exact. Few errors are apparent. Working and reworking something, so it will be "just right. Coordinating a series of actions, achieving harmony and internal consistency. Producing a video that involves music, drama, color, sound, etc. Having high level performance become natural, without needing to think much about it. Michael Jordan playing basketball, Nancy Lopez hitting a golf ball, etc.

Chapter 6 : Cognitive, Affective, and Psychomotor Domains

The University of Dayton, School of Law Affective Domain website describes each catagory in the domain and provides illustrative examples and keywords for the cognitive, affective, and psychomotor domains.

Best practice models from throughout a variety of educational settings have confirmed the effectiveness of instructional strategies which identify these learning modes and seek to incorporate these learning processes, when applicable, into learning environments. The behavioral or psychomotor learning domain focuses upon the processes of mastery of physical skills. Physical skills have been categorized in a variety of ways, but invariably include cognitive, psychomotor, reactive, and interactive domains Romiszowski, Romiszowski stresses not only the general learning processes of psychomotor skill learning but also the instructional strategies necessary for skills development. The challenge for educators teaching physical skills is for learners to transfer knowledge of these skills into proficient practice. Therefore, the focus of cognitive learning is built upon the understanding that learners attain knowledge through a variety of interactions and processes. Or, stated another way, the affective domain relates primarily to the motivational factors involved in learning. A taxonomy of internalization from least to most includes: Affective components are strongly related to other elements of learning processes, and are at times not easily distinguishable. Collaboration has typically taken place in the classroom setting through the use of group work, etc. While traditional collaborative learning opportunities have typically been synchronous, many online instructional strategies now implement asynchronous collaborative exercises. These asynchronous collaborations are not dependent upon schedule constraints of learners or faculty. Each learning domain examined certainly clarifies important learning processes. The task for instructional designers and educators alike is to evaluate what the needs of the students are and then to employ strategies which help students meet instructional objectives. Learning together on the web. In e-Learning and the science of instruction. Affective education and the affective domain: Implications for instructional-design theories and models. Cognitive education and the cognitive domain. The development of physical skills: Instruction in the psychomotor domain. In Instructional-design theories and models: Blog , Thoughts Tagged With: For more, follow me jasonrhode or visit me online at niu.

Chapter 7 : Learning Domains - Student Life Learning & Assessment | Emporia State University

These domains of learning can be categorized as cognitive domain (knowledge), psychomotor domain (skills) and affective domain (attitudes). This categorization is best explained by the Taxonomy of Learning Domains formulated by a group of researchers led by Benjamin Bloom in

Chapter 8 : Bloom's Taxonomy

SLOs, Bloom's Taxonomy, Cognitive, Psychomotor, and Affective Domains. Benjamin Bloom () developed classifications of intellectual behavior and.

Chapter 9 : Bloom's Taxonomy of Learning Domains: The Cognitive Domain

There is more than one type of learning. A committee of colleges, led by Benjamin Bloom, identified three domains of educational activities. The three domains are cognitive, affective, and psychomotor. Since the work was produced by higher education, the words tend to be a little bigger than we are.