Outline of Educational Learning Theories and Theorists

Theorist	Theory	Description
Ausubel	Subsumption Theory	Mechanism by which new material presented in academic settings (lectures) can be integrated into existing mental structures. For subsumption to occur, the presentation of new knowledge should be preceded by "advance organizers."
Bandura	Observational Learning Theory	Behavior can be learned through observation of others.
Bruner	Constructivist Theory	Individuals actively construct knowledge by comparing new ideas or concepts with their current knowledge (schema or mental models).
Comenius	Pansophism *(universal knowledge)*	The idea that learning, emotional, and spiritual growth are interwoven. Proposed teaching through stimulation of the senses, not merely through memorization. Considered the "Father of Modern Education."
Dewey	Learning by Doing	Learning occurs through experience.
Erikson	Socioemotional Development	Erikson's "Eight Stages of Man" describes a series of crises individuals pass through at different ages. The stages begin with "trust versus mistrust" in infancy and continue through a series of paired outcomes for each age through older adulthood.
Festinger	Cognitive Dissonance	Inconsistencies between behaviors and beliefs motivate people to change. One basis for constructivism.
Freud	Levels of Consciousness	The mind operates at different levels: conscious versus unconscious. He further subdivided the mind into the id (primitive motivations), ego (logical portion of the mind which acts to satisfy the id - when possible), and the super-ego (the conscience).

Gagne	Conditions of Learning	For different kids of learning (motor skills, verbal skills) different conditions are needed, so different strategies should be used.
Gardner	Multiple Intelligences	Each individual possesses seven distinct and measurable forms of intelligence: linguistic, logical-mathematical, spatial, body-kinesthetic, musical, intrapersonal, and interpersonal.
Kohlberg	Stages of Moral Development	Pre-Conventional - based on self-centered interests Conventional - based on conformity to local expectations Post-Conventional - based on higher principles
Locke	Tabula Rasa	The idea that individuals are "blank slates" on which teachers could "write" knowledge. A forerunner of behaviorism.
Maslow	Hierarchy of Needs	Humans naturally strive to satisfy needs. The five levels of needs, from lowest to highest, are: physiological, safety, love, esteem, self-actualization. Lower level needs must be satisfied before the individual can move on to satisfy higher level needs.
Miller	Information Processing Theory	Short term memory can only hold 5-9 "chunks" of information at a time. A chunk can be any meaningful idea like a word, an identifiable image, or a digit.
Pavlov	Classical Conditioning *(Behaviorism)*	The association of new responses with existing stimulus-response pairs. Classic example is pairing the ringing of a bell with presentation of food to dogs. After repeated pairing, the dogs will salivate upon hearing the bell (even if food is not presented). Original stimulus (S) response (R) pair is food -- salivate. New S-R pair is bell -- salivate.

Piaget	Genetic Epistemology	Developmental stages of child development:
		    0-2 years: "sensorimotor" - motor development
		    3-7 years: "preoperation" - intuitive
		    8-11 years: "concrete operational" - logical, but non-abstract
		    12-15 years: "formal operations" - abstract thinking

Rogers	Experiential Learning	Two types of knowledge: academic and experiential. Unlike academic knowledge, experiential knowledge is acquired to meet the needs of the learner, usually to complete an important, real-life task. Example: Learning to drive a car.
Skinner	Operant Conditioning *(Behaviorism)*	Learning is the result of changes in behavior. As stimulus-response cycles are reinforced, individuals are "conditioned" to respond. Distinguished from Connectionism because individuals can initiate responses, not merely respond to stimuli.
Thorndike	Connectionism *(Behaviorism)*	Learners form associations or connections between a stimulus and a response. Through trial and error, rewarded responses would be strengthened.
Vygotsky	Social Development Theory and ZPD	Social interaction is critical for cognitive development. Related to this is the idea of a "Zone of Proximal Development (ZPD)." Some skills, an individual can perform independently. Other skills can be performed if the individual has assistance. Skills that can be performed with assistance are said to be within an individual's ZPD. The ZPD is the theoretical basis for scaffolding.
Watson	Behaviorism	Proposed that most human learning and behavior was controlled by experience (not genetically pre-determined). Believed the only behaviors that should be studied are the "observable" ones.

Wertheimer	Gestalt Theory	Some ideas can only be understood as part of a "bigger picture" Important in problem-solving.

General Educational Theories
- [active learning](#) - C. Bonwell
- [classification of educational objectives](#) - Benjamin Bloom
- critical pedagogy - Paulo Freire
- cognitive dissonance theory - Elliot Aronson
- cognitive learning theory -Jerome Bruner
- computer based learning Robert Gagné
- conditions of learning - Robert Gagné
- [constructionism](#) - Seymour Papert
- [constructivism](#) - Jean Piaget
- [discovery learning](#) - Jerome Bruner
- [discovery learning](#) - Seymour Papert
- [discovery learning](#) Jean Piaget
- educational equity - Linda Darling-Hammond
- educational progressivism - John Dewey
- [experiential learning theory](#) - David Kolb
- guided discovery - Ann Brown
- [how people learn](#) - John D. Bransford
- [Learning styles](#): Visual, Auditory, Reading, Kinesthetic - Neil Flemming
- [learning styles](#) - Anthony Gregorc
- [mastery-learning](#)- Benjamin Bloom
- [measurement of intelligence](#) - Alfred Binet
- [metacognition](#) - Ann Brown
- [metacognition](#) - John Flavell
- multicultural education - Donna Golnick
- [multiple intelligences](#) - Howard Gardner
- [pedagogical content knoweledge](#) - LeeSchulman
- pragmatism - John Dewey
- multiethnic educaiton - James Banks
- science/technology/society - Robert Yager
- social cognitive theory and [self-efficacy](#) - Albert Bandura

- [social cognition](#) - Lev S. Vygotsky
- subsumption theory, advance organizers - David Ausubel

http://canterbury.libguides.com/content.php?pid=23635&sid=397950

Constructivism is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences.

The guiding principles of Constructivism:

- Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.

- Meaning requires understanding wholes as well as parts. And parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not isolated facts.

- In order to teach well, we must understand the mental models that students use to perceive the world and the assumptions they make to support those models.

- The purpose of learning is for an individual to construct his or her own meaning, not just memorize the "right" answers and regurgitate someone else's meaning. Since education is inherently interdisciplinary, the only valuable way to measure learning is to make assessment part of the learning process, ensuring it provides students with information on the quality of their learning.

How Constructivism impacts learning:

- Curriculum - Constructivism calls for the elimination of a standardized curriculum. Instead, it promotes using curricula customized to the students' prior knowledge. Also, it emphasizes hands-on problem solving.

- Instruction - Under the theory of constructivism, educators focus on making connections between facts and fostering new understanding in students. Instructors tailor their teaching strategies to student responses and encourage students to analyze, interpret, and predict information. Teachers also rely heavily on open-ended questions and promote

extensive dialogue among students.

- Assessment - Constructivism calls for the elimination of grades and standardized testing. Instead, assessment becomes part of the learning process so that students play a larger role in judging their own progress.

Behaviorism is a philosophy of learning that only focuses on objectively observable behaviors and discounts mental activities. Behavior theorists define learning as nothing more than the acquisition of new behavior.

Experiments by behaviorists identify conditioning as a universal learning process. There are two different types of conditioning, each yielding a different behavioral pattern:

- Classic conditioning occurs when a natural reflex responds to a stimulus.

  The most popular example is Pavlov's observation that dogs salivate when they eat or even see food. Essentially, animals and people are biologically "wired" so that a certain stimulus will produce a specific response.

- Behavioral or operant conditioning occurs when a response to a stimulus is reinforced.

  Basically, operant conditioning is a simple feedback system: If a reward or reinforcement follows the response to a stimulus, then the response becomes more probable in the future. For example, leading behaviorist B.F. Skinner used reinforcement techniques to teach pigeons to dance and bowl a ball in a mini-alley.

How Behaviorism impacts learning:

- Positive and negative reinforcement techniques of Behaviorism can be very effective.

- Teachers use Behaviorism when they reward or punish student behaviors.

Jean Piaget authored a theory based on the idea that a developing child builds cognitive structures, mental "maps", for understanding and responding to physical experiences within their environment. Piaget proposed that a child's cognitive structure increases in sophistication with development, moving from a few innate reflexes such as crying and sucking to highly complex mental activities.

The four developmental stages of Piaget's model and the processes by which children progress through them are:

The child is not yet able to conceptualize abstractly and needs concrete physical situations. As physical experience accumulates, the child starts to conceptualize, creating logical structures that explain their physical experiences.

Abstract problem solving is possible at this stage. For example, arithmetic equations can be solved with numbers, not just with objects.

By this point, the child's cognitive structures are like those of an adult and include conceptual reasoning.

Developmental Stage	Cognitive Process
Sensorimotor stage (birth - 2 years old)	The child, through physical interaction with the environment, builds a set of concepts about reality and how it works. This is the stage where a child does not know that physical objects remain in existence even when out of sight.
Preoperational stage (ages 2 - 7)	
Concrete operations (ages 7 - 11)	
Formal operations (beginning at ages 11 - 15)	

Piaget proposed that during all development stages, the child experiences their environment using whatever mental maps they have constructed. If the experience is a repeated one, it fits easily - or is assimilated - into the child's cognitive structure so that they maintain mental "equilibrium". If the experience is different or new, the child loses equilibrium, and alters their cognitive structure to accommodate the new conditions. In this way, the child constructs increasingly complex cognitive structures.

How Piaget's theory impacts learning:

- Curriculum - Educators must plan a developmentally appropriate curriculum that enhances their students' logical and conceptual growth.

- Instruction - Teachers must emphasize the critical role that experiences, or interactions with the surrounding environment, play in student learning. For example, instructors have to take into account the role that fundamental concepts, such as the permanence of objects, play in establishing cognitive structures.

The Brain-based Learning Theory is based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur.

Every person is born with a brain that functions as an information processor. Traditional schooling, however, often inhibits learning by discouraging, ignoring, or punishing the brain's natural learning processes.

The core principles of Brain-based Learning state that:

- The brain is a parallel processor, meaning it can perform several activities at once.

- Learning engages the whole physiology.

- The search for meaning is innate.

- The search for meaning comes through patterning.

- Emotions are critical to patterning.

- The brain processes wholes and parts simultaneously.

- Learning involves both focused attention and peripheral perception.

- Learning involves both conscious and unconscious processes.

- We have two types of memory: spatial and rote.

- We understand best when facts are embedded in natural, spatial memory.

- Learning is enhanced by challenge and inhibited by threat.

- Each brain is unique.

The three instructional techniques associated with Brain-based Learning are:

Creating learning environments that fully immerse students in an educational experience. Trying to eliminate fear in learners, while maintaining a highly challenging environment. Allowing the learner to consolidate and internalize information by actively processing it.

Orchestrated immersion
Relaxed alertness
Active processing

How Brain-based Learning impacts education:

- Curriculum - Teachers must design learning around student interests and make learning contextual.

- Instruction - Educators let students learn in teams and use peripheral learning. Teachers structure learning around real problems, encouraging students to also learn in settings outside the classroom and the school building.

- Assessment - Since all students are learning, their assessment should allow them to understand their own learning styles and preferences. This way, students monitor and enhance their own learning process.

The Control Theory of Motivation, proposed by William Glasser, contends that behavior is never caused by a response to an outside stimulus. Instead, the behavior is inspired by what a person wants most at any given time.

Responding to complaints that today's students are "unmotivated," Glasser attests that all living creatures "control" their behavior to maximize their need satisfaction. According to Glasser, if students are not motivated to do their schoolwork, it's because they view schoolwork as irrelevant to their basic human needs.

Glasser identifies two types of teachers:

- Boss teachers use rewards and punishment to coerce students to comply with rules and complete required assignments. Glasser calls this "leaning on your shovel" work. He shows how high percentages of students recognize that the work they do, even when their teachers praise them, is low-level work.

- Lead teachers, on the other hand, avoid coercion completely. They make the intrinsic rewards of doing the work clear to their students, correlating any proposed assignments to the students' basic needs. These teachers use grades as indicators of what has and hasn't been learned, rather than a reward. They will "fight to protect" highly engaged, deeply motivated students who are doing quality work from having to fulfill meaningless requirements.

How the Control Theory impacts learning:

- Curriculum - Teachers negotiate both content and method with students. Students' basic needs literally help shape how and what they are taught.

- Instruction - Teachers rely on cooperative, active learning techniques that enhance the power of the learners. Lead teachers make sure that all assignments meet some degree of their students' need satisfaction. This secures student loyalty, which carries the class through whatever relatively meaningless tasks might be necessary to satisfy official requirements.

- Assessment - Instructors only give "good grades" to certify quality work. Student assessment uses an absolute standard, rather than a relative "curve."

Observational Learning, also called **The Social Learning Theory**, occurs when an observer's behavior changes after viewing a behavioral model. An observer's behavior can be affected by the positive or negative consequences - called vicarious reinforcement or vicarious punishment - of a model's behavior.

The guiding principles behind Observational Learning, or Social Learning Theory:

- The observer will imitate the model's behavior if the model possesses characteristics - things such as talent, intelligence, power, good looks, or popularity - that the observer finds attractive or desirable.

- The observer will react to the way the model is treated and mimic the model's behavior. When the model's behavior is rewarded, the observer is more likely to reproduce the rewarded behavior. When the model is punished, an example of vicarious punishment, the observer is less likely to reproduce the same behavior.

- A distinction exists between an observer's "acquiring" a behavior and "performing" a behavior. Through observation, the observer can acquire the behavior without performing it. The observer may then later, in situations where there is an incentive to do so, display the behavior.

- Learning by observation involves four separate processes:

  - **Attention:** Observers cannot learn unless they pay attention to what's happening around them. This process is influenced by characteristics of the model, such as how much one likes or identifies with the model, and by characteristics of the observer, such as the observer's expectations or level of emotional arousal.

  - **Retention:** Observers must not only recognize the observed behavior but also remember it at some later time. This process depends on the observer's ability to code or structure the information in an easily remembered form or to mentally or physically rehearse the model's actions.

  - **Production:** Observers must be physically and intellectually capable of producing the act. In many cases the observer possesses the necessary responses. But sometimes, reproducing the model's actions may involve skills the observer has not yet acquired. It is one thing to carefully watch a circus juggler, but it is quite another to go home and repeat those acts.

  - **Motivation:** In general, observers will perform the act only if they have some motivation or reason to do so. The presence of reinforcement or punishment, either to the model or directly to the observer, becomes most important in this process.

Attention and retention account for acquisition or learning of a model's behavior; production and motivation control the performance.

How Observational Learning impacts learning:

- Curriculum - Students must get a chance to observe and model the behavior that leads to a positive reinforcement.

- Instruction - Educators must encourage collaborative learning, since much of learning happens within important social and environmental contexts.

- Assessment - A learned behavior often cannot be performed unless there is the right environment for it. Educators must provide the incentive and the supportive environment for the behavior to happen. Otherwise, assessment may not be accurate.

The Social Cognition Learning Model asserts that culture is the prime determinant of individual development. Humans are the only species to have created culture, and every human child develops in the context of a culture. Therefore, a child's learning development is affected in ways large and small by the culture - including the culture of family environment - in which he or she is enmeshed.

The core principles of The Social Cognition Learning Model are:

- Culture makes two types of contributions to a child's intellectual development:

  - Children acquire much of the content of their knowledge through their culture.

  - The surrounding culture provides a child with the processes or means of their thinking.

    In short, according to the Social Cognition Learning Model, culture teaches children both what to think and how to think.

- Cognitive development results from a dialectical process whereby a child learns through problem-solving experiences shared with someone else, usually a parent or teacher but sometimes a sibling or peer.

- Initially, the person interacting with the child assumes most of the responsibility for guiding the problem solving, but gradually this responsibility transfers to the child.

- Language is a primary form of interaction through which adults transmit to the child the rich body of knowledge that exists in the culture.

- As learning progresses, the child's own language comes to serve as his or her primary tool of intellectual adaptation. Eventually, children can use internal language to direct their own behavior.

- Internalization refers to the process of learning - and thereby internalizing - a rich body of knowledge and tools of thought that first exist outside the child. This happens primarily

through language.

- A difference exists between what the child can do on their own and what the child can do with help.

- Since much of what a child learns comes form the culture around them and much of the child's problem solving is mediated through an adult's help, it is wrong to focus on a child in isolation. Such focus does not reveal the processes by which children acquire new skills.

- Interactions with surrounding culture and social agents, such as parents and more competent peers, contribute significantly to a child's intellectual development.

How The Social Cognition Learning Model impacts learning:

- Curriculum - Since children learn much through interaction, curricula should be designed to emphasize interaction between learners and learning tasks.

- Instruction - With appropriate adult help, children can often perform tasks that they are incapable of completing on their own. With this in mind, scaffolding - where the adult continually adjusts the level of his or her help in response to the child's level of performance - is an effective form of teaching. Scaffolding not only produces immediate results, but also instills the skills necessary for independent problem solving in the future.

- Assessment - Assessment methods must target both the level of actual development and the level of potential development. What children can do on their own is their level of actual development and what they can do with help is their level of potential development. Two children might have the same level of actual development, but given the appropriate help from an adult, one might be able to solve many more problems than the other.

More Learning Theories:

- Learning-Theories.com
- Funderstanding.com

Early Childhood Theory

Early childhood theories are somewhat different. However, what happens in a lower grade always has some impact on the grades above it. This website author has neither the training nor experience to be conversant in early childhood theories.

Albert Bandura

Observational Learning Theory--
Behavior can be learned through observation of others.

Jerome Bruner
Constructivist Theory--
Individuals actively construct knowledge by comparing new ideas or concepts with their current knowledge (schema or mental models).

John Dewey
Learning by Doing--
Learning occurs through experience.

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Genetic Epistemology--
Developmental stages of child development:
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Lev Vygotsky
Social Development Theory and ZPD--
Social interaction is critical for cognitive development. Related to this is the idea of a "Zone of Proximal Development (ZPD)." Some skills, an individual can perform independently. Other skills can be performed if the individual has assistance. Skills that can be performed with assistance are said to be within an individual's ZPD. The ZPD is the theoretical basis for scaffolding.

Howard Gardner
Multiple Intelligences--
Each individual possesses seven distinct and measurable forms of intelligence: linguistic, logical-mathematical, spatial, body-kinesthetic, musical, intrapersonal, and interpersonal.

Abraham Maslow
Hierarchy of Needs --
Humans naturally strive to satisfy needs. The five levels of needs, from lowest to highest, are:
physiological, safety, love, esteem, self-actualization.
Lower level needs must be satisfied before the individual can move on to satisfy higher level needs.

B.F. Skinner

Operant Conditioning (Behaviorism)--
Learning is the result of changes in behavior. As stimulus-response cycles are reinforced, individuals are "conditioned" to respond. Distinguished from Connectionism because individuals can initiate responses, not merely respond to stimuli.

Erik Erikson

Socioemotional Development--
Erikson's "Eight Stages of Man" describes a series of crises individuals pass through at different ages. The stages begin with "trust versus mistrust" in infancy and continue through a series of paired outcomes for each age through older adulthood.

Lawrence Kohlberg

Stages of Moral Development--
Pre-Conventional - based on self-centered interests
Conventional - based on conformity to local expectations
Post-Conventional - based on higher principles

Carol Gilligan

Ethical relationships--
Gilligan stresses that unlike today's women who can speak the moral language of justice and rights nearly as fluently as the moral language of care and responsibilities, today's boys and men still find it very hard to articulate their moral concerns in anything other than the moral language of justice and rights. The primary aim of Gilligan's new studies is to demonstrate that Level Three thinking is, after all, the kind of thinking that should guide moral deliberation.

Madeline Hunter

Instructional Theory into Practice Teaching Model--

Hunter identified seven components for teaching:
1.knowledge of human growth and development, 2.content, 3.classroom management, 4.materials, 5.planning, 6.human relations, 7.instructional skills

Hunter also developed a direct instructional model and elements of effective instruction.
The instructional model has seven components:
1.objectives, 2.standards, 3.anticipatory set, 4.teaching (input, modeling, checking for understanding), 5.guided practice/monitoring, 6.closure, 7.independent practice

David Ausubel

Subsumption Theory--

Mechanism by which new material presented in academic settings (lectures) can be integrated into existing mental structures. For subsumption to occur, the presentation of new knowledge should be preceded by "advance organizers."