

Learning Theories:

The theories listed here can be found in most Ed Psych textbooks and the class notes of most higher education students. In schools of education graduate students are required to write position papers on various learning theories and styles. Once one has solid foundation experimentation begins as teachers work through what seems to be best form their students and themselves.

Over time I settled on George Kelly's Constructivist view and having trained with William Glasser's Control Theory group my foundation for teaching was added to by brain based learning concepts.

On Purpose Associates wrote this collection of theory vignettes. A publishing group I used both in graduate school and in my teaching at Southern Illinois University and Campbellsville University Schools of Education.

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Constructivism

Definition

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.

Discussion

There are several guiding principles of constructivism:

1. Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.
2. 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.
3. 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.
 4. 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 the 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

Definition

Behaviorism is a theory of animal and human 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.

Discussion

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

5. **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.
6. **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.

There have been many criticisms of behaviorism, including the following:

1. Behaviorism does not account for all kinds of learning, since it disregards the activities of the mind.
2. Behaviorism does not explain some learning—such as the recognition of new language patterns by young children—for which there is no reinforcement mechanism.
3. Research has shown that animals adapt their reinforced patterns to new information. For instance, a rat can shift its behavior to respond to changes in the layout of a maze it had previously mastered through reinforcements.

How Behaviorism Impacts Learning

This theory is relatively simple to understand because it relies only on observable behavior and describes several universal laws of behavior. Its positive and negative reinforcement techniques can be very effective—both in animals, and in treatments for human disorders such as autism and antisocial behavior. Teachers, who reward or

punish student behaviors, often use behaviorism.

Piaget

Definition

Swiss biologist and psychologist Jean Piaget (1896-1980) is renowned for constructing a highly influential model of child development and learning. Piaget's theory is based on the idea that the developing child builds cognitive structures—in other words, mental “maps,” schemes, or networked concepts for understanding and responding to physical experiences within his or her environment. Piaget further attested 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.

Discussion

Piaget's theory identifies four developmental stages and the processes by which children progress through them. The four stages are:

7. *Sensorimotor stage (birth - 2 years old)*—The child, through physical interaction with his or her 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 (object permanence).
8. *Preoperational stage (ages 2-7)*—The child is not yet able to conceptualize abstractly and needs concrete physical situations.
9. *Concrete operations (ages 7-11)*—As physical experience accumulates, the child starts to conceptualize, creating logical structures that explain his or her physical experiences. Abstract problem solving is also possible at this stage. For example, arithmetic equations can be solved with numbers, not just with objects.
10. *Formal operations (beginning at ages 11-15)*—By this point, the child's cognitive structures are like those of an adult and include conceptual reasoning.

Piaget outlined several principles for building cognitive structures. During all development stages, the child experiences his or her environment using whatever mental maps he or she has constructed so far. If the experience is a repeated one, it fits easily—or is assimilated—into the child’s cognitive structure so that he or she maintains mental “equilibrium.” If the experience is different or new, the child loses equilibrium, and alters his or her cognitive structure to accommodate the new conditions. This way, the child erects more and more adequate 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.

Neuroscience

Definition Neuroscience is the study of the human nervous system, the brain, and the biological basis of consciousness, perception, memory, and learning.

Discussion The nervous system and the brain are the physical foundation of the human learning process. Neuroscience links our observations about cognitive behavior with the actual physical processes that support such behavior. This theory is still “young” and is undergoing rapid, controversial development.

Some of the key findings of neuroscience are:

The brain has a triad structure. Our brain actually contains three brains: the lower or reptilian brain that controls basic sensory motor functions; the mammalian or limbic brain that controls emotions, memory, and biorhythms; and the neocortex or thinking brain that controls cognition, reasoning, language, and higher intelligence.

The brain is not a computer. The structure of the brain's neuron connections is loose, flexible, "webbed," overlapping, and redundant. It's impossible for such a system to function like a linear or parallel-processing computer. Instead, the brain is better described as a self-organizing system.

The brain changes with use, throughout our lifetime. Mental concentration and effort alters the physical structure of the brain. Our nerve cells (neurons) are connected by branches called dendrites. There are about 10 billion neurons in the brain and about 1,000 trillion connections. The possible combinations of connections are about ten to the one-millionth power. As we use the brain, we strengthen certain patterns of connection, making each connection easier to create next time. This is how memory develops.

How Neuroscience Impacts Education

When educators take neuroscience into account, they organize a curriculum around real experiences and integrated, "whole" ideas. Plus, they focus on instruction that promotes complex thinking and the "growth" of the brain. Neuroscience proponents advocate continued learning and intellectual development throughout adulthood.

Reading Gerald Edelman, *Bright Air, Brilliant Fire: On the Matter of the Mind*. Basic Books, 1992.

Bobbi Deporter, *Quantum Learning*, Chapter 2. Dell Trade, 1992.

Renate and Geoffrey Caine, *Making Connections: Teaching and the Human Brain*.

Robert Sylwester, "What the Biology of the Brain Tells Us About Learning," *Education Leadership*, December, 1993.

Brain-based Learning

Definition

This 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.

Discussion

People often say that everyone **can** learn. Yet the reality is that everyone **does** learn. Every person is born with a brain those functions as an immensely powerful 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:

11. The brain is a parallel processor, meaning it can perform several activities at once, like tasting and smelling.
12. Learning engages the whole physiology.
13. The search for meaning is innate.
14. The search for meaning comes through patterning.
15. Emotions are critical to patterning.
16. The brain processes wholes and parts simultaneously.
17. Learning involves both focused attention and peripheral perception.
18. Learning involves both conscious and unconscious processes.
19. We have two types of memory: spatial and rote.
20. We understand best when facts are embedded in natural, spatial memory.
21. Learning is enhanced by challenge and inhibited by threat.
22. Each brain is unique.

The three instructional techniques associated with brain-based learning are:

4. **Orchestrated immersion**—Creating learning environments that fully immerse students in an educational experience
5. **Relaxed alertness**—Trying to eliminate fear in learners, while maintaining a highly challenging environment
6. **Active processing**—Allowing the learner to consolidate and

internalize information by actively processing it
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.

What Brain-Based Learning Suggests

How the brain works has a significant impact on what kinds of learning activities are most effective. Educators need to help students have appropriate experiences and capitalize on those experiences. As Renate Caine illustrates on p. 113 of her book *Making Connections*, three interactive elements are essential to this process:

- Teachers must immerse learners in complex, interactive experiences that are both rich and real. One excellent example is immersing students in a foreign culture to teach them a second language. Educators must take advantage of the brain's ability to parallel process.
- Students must have a personally meaningful challenge. Such challenges stimulate a student's mind to the desired state of alertness.
- In order for a student to gain insight about a problem, there must be intensive analysis of the different ways to approach it, and about learning in general. This is what's known as the "active processing of experience."

A few other tenets of brain-based learning include:

Feedback is best when it comes from reality, rather than from an authority figure.

People learn best when solving realistic problems.

The big picture can't be separated from the details.

Because every brain is different, educators should allow learners to customize their own environments.

The best problem solvers are those that laugh!

Designers of educational tools **must be artistic** in their creation of brain-friendly environments. Instructors need to realize that the best way to learn is not through lecture, but by participation in realistic environments that let learners try new things safely.

Reading

Renate and Geoffrey Caine, *Making Connections: Teaching and the Human Brain*.

Leslie Hart, *Human Brain, Human Learning*.

Learning Styles

Definition

This approach to learning emphasizes the fact that individuals perceive and process information in very different ways. The learning styles theory implies that how much individuals learn has more to do with whether the educational experience is geared toward their particular style of learning than whether or not they are "smart." In fact, educators should not ask, "Is this student smart?" but rather "How is this student smart?"

Discussion

The concept of learning styles is rooted in the classification of psychological types. The learning styles theory is based on research demonstrating that, as the result of heredity, upbringing, and current environmental demands, different individuals have a tendency to both perceive and process information differently. The different ways of doing so are generally classified as:

23. **Concrete and abstract perceivers**—Concrete perceivers absorb

- information through direct experience, by doing, acting, sensing, and feeling. Abstract perceivers, however, take in information through analysis, observation, and thinking.
24. **Active and reflective processors**—Active processors make sense of an experience by immediately using the new information. Reflective processors make sense of an experience by reflecting on and thinking about it.

Traditional schooling tends to favor abstract perceiving and reflective processing. Other kinds of learning aren't rewarded and reflected in curriculum, instruction, and assessment nearly as much.

How the Learning Styles Theory Impacts Education

Curriculum—Educators must place emphasis on intuition, feeling, sensing, and imagination, in addition to the traditional skills of analysis, reason, and sequential problem solving.

Instruction—Teachers should design their instruction methods to connect with all four learning styles, using various combinations of experience, reflection, conceptualization, and experimentation. Instructors can introduce a wide variety of experiential elements into the classroom, such as sound, music, visuals, movement, experience, and even talking.

Assessment—Teachers should employ a variety of assessment techniques, focusing on the development of “whole brain” capacity and each of the different learning styles.

Reading

Bernice McCarthy, *The 4-MAT System: Teaching to Learning Styles with Right/Left Mode Techniques*.

David Kolb, *Experiential Learning: Experience as the Source of Learning and Development*.

Carl Jung, *Psychological Types*.

Gordon Lawrence, *People Types and Tiger Stripes: A Practical Guide to Learning Styles*.

Multiple Intelligences

Definition

This theory of human intelligence, developed by psychologist Howard Gardner, suggests there are at least seven ways that people have of perceiving and understanding the world. Gardner labels each of these ways a distinct “intelligence”—in other words, a set of skills allowing individuals to find and resolve genuine problems they face.

Discussion

Gardner defines an “intelligence” as a group of abilities that:

Is somewhat autonomous from other human capacities

Has a core set of information-processing operations

Has a distinct history in the stages of development we each pass through

Has plausible roots in evolutionary history

While Gardner suggests his list of intelligences may not be exhaustive, he identifies the following seven:

25. *Verbal-Linguistic*—The ability to use words and language
26. *Logical-Mathematical*—The capacity for inductive and deductive thinking and reasoning, as well as the use of numbers and the recognition of abstract patterns
27. *Visual-Spatial*—The ability to visualize objects and spatial dimensions, and create internal images and pictures
28. *Body-Kinesthetic*—The wisdom of the body and the ability to control physical motion
29. *Musical-Rhythmic*—The ability to recognize tonal patterns and sounds, as well as a sensitivity to rhythms and beats
30. *Interpersonal*—The capacity for person-to-person communications and relationships
31. *Intrapersonal*—The spiritual, inner states of being, self-reflection, and awareness

How Multiple Intelligences Impact Learning

Curriculum—Traditional schooling heavily favors the verbal-linguistic and logical-mathematical intelligences. Gardner suggests a more balanced curriculum that incorporates the arts, self-awareness, communication, and physical education.

Instruction—Gardner advocates instructional methods that appeal to all the intelligences, including role playing, musical performance, cooperative learning, reflection, visualization, story telling, and so on.

Assessment—This theory calls for assessment methods that take into account the diversity of intelligences, as well as self-assessment tools that help students understand their intelligences.

Reading

Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences*.

Right Brain vs. Left Brain

Definition

This theory of the structure and functions of the mind suggests that the two different sides of the brain control two different “modes” of thinking. It also suggests that each of us prefers one mode over the other.

Discussion

Experimentation has shown that the two different sides, or hemispheres, of the brain are responsible for different manners of thinking. The following table illustrates the differences between left-brain and right-brain thinking:

Left Brain

Right Brain

Logical	Random
Sequential	
	Intuitive
Rational	Holistic
Analytical	Synthesizing
Objective	Subjective
Looks at parts	Looks at wholes

Most individuals have a distinct preference for one of these styles of thinking. Some, however, are more whole-brained and equally adept at both modes. In general, schools tend to favor left-brain modes of thinking, while downplaying the right-brain ones. Left-brain scholastic subjects focus on logical thinking, analysis, and accuracy. Right-brained subjects, on the other hand, focus on aesthetics, feeling, and creativity.

How Right-Brain vs. Left-Brain Thinking Impacts Learning

Curriculum—In order to be more “whole-brained” in their orientation, schools need to give equal weight to the arts, creativity, and the skills of imagination and synthesis.

Instruction—To foster a more whole-brained scholastic experience, teachers should use instruction techniques that connect with both sides of the brain. They can increase their classroom’s right-brain learning activities by incorporating more patterning, metaphors, analogies, role-playing, visuals, and movement into their reading, calculation, and analytical activities.

Assessment—For a more accurate whole-brained evaluation of student learning, educators must develop new forms of assessment that honor right-brained talents and skills.

Reading

Bernice McCarthy, *The 4-MAT System: Teaching to Learning Styles with Right/Left Mode Techniques*.

Communities of Practice

Definition

This approach views learning as an act of membership in a “community of practice.” The theory seeks to understand both the structure of communities and how learning occurs in them.

Basic Elements

The Institute pioneered the communities of practice concept for Research on Learning, a spin-off of the Xerox Corporation in Palo Alto, CA. The Institute pursues a cross-disciplinary approach to learning research, involving cognitive scientists, organizational anthropologists, and traditional educators. Communities of practice is based on the following assumptions:

Learning is fundamentally a social phenomenon. People organize their learning around the social communities to which they belong. Therefore, schools are only powerful learning environments for students whose social communities coincide with that school.

Knowledge is integrated in the life of communities that share values, beliefs, languages, and ways of doing things. These are called **communities of practice**. Real knowledge is integrated in the doing, social relations, and expertise of these communities.

The processes of learning and membership in a community of practice are inseparable. Because learning is intertwined with community membership, it is what lets us belong to and adjust our status in the group. As we change our learning, our identity—and our relationship to the group—changes.

Knowledge is inseparable from practice. It is not possible to **know** without **doing**. By doing, we learn.

Empowerment—or the ability to contribute to a community—creates the potential for learning. Circumstances in which we engage in real

action that has consequences for both our community and us create the most powerful learning environments.

How Communities of Practice Impacts Education

This approach to learning suggests teachers understand their students' communities of practice and acknowledge the learning students do in such communities. The communities of practice theory also suggests educators structure learning opportunities that embed knowledge in both work practices and social relations—for example, apprenticeships, school-based learning, service learning, and so on. Plus, educators should create opportunities for students to solve real problems with adults, in real learning situations.

Reading

Institute for Research on Learning, *A New Learning Agenda: Putting People First* (unpublished pamphlet).

Control Theory

Definition

This theory of motivation proposed by William Glasser contends that behavior is never caused by a response to an outside stimulus. Instead, the control theory states that behavior is inspired by what a person **wants** most at any given time: survival, love, power, freedom, or any other basic human need.

Discussion

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.

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 such low-level work.

Lead teachers, on the other hand, avoid coercion completely. Instead, they make the intrinsic rewards of doing the work clear to their students, correlating any proposed assignments to the students' basic needs. Plus, they only use grades as temporary indicators of what has and hasn't been learned, rather than a reward. Lead teachers 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 must 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”—those that certify quality work—to satisfy students' need for power. Courses for which a student doesn't earn a “good grade” are not recorded on that student's transcript. Teachers grade students using an absolute standard, rather than a relative “curve.”

Reading

William Glasser, *The Quality School*, Harper & Row, 1990.

On Purpose Associates wrote the content on this page.

Observational Learning

Definition

Observational learning, also called social learning theory, occurs when an observer's behavior changes after viewing the behavior of a 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.

Discussion

There are several guiding principles behind observational learning, or social learning theory:

32. 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.
33. 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.
34. 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.
35. Learning by observation involves four separate processes: *attention, retention, production and motivation.*

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. These processes depend 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.

36. Attention and retention account for acquisition or learning of a model's behavior; production and motivation control the performance.
37. Human development reflects the complex interaction of the person, the person's behavior, and the environment. The relationship between these elements is called *reciprocal determinism*. A person's cognitive abilities, physical characteristics, personality, beliefs, attitudes, and so on influence both his or her behavior and environment. These influences are reciprocal, however. A person's behavior can affect his feelings about himself and his attitudes and beliefs about others. Likewise, much of what a person knows comes from environmental resources such as television, parents, and books. Environment also affects behavior: what a person observes can powerfully influence what he does. But a person's behavior also contributes to his environment.

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.

Reading

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Vygotsky and Social Cognition

Definition

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.

Discussion

38. Culture makes two sorts of contributions to a child's intellectual development. *First*, through culture children acquire much of the content of their thinking, that is, their knowledge. *Second*, the surrounding culture provides a child with the processes or means of their thinking, what Vygotskians call the tools of intellectual adaptation. In short, according to the social cognition-learning model, culture teaches children both what to think and how to think.
39. 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.
40. Initially, the person interacting with child assumes most of the responsibility for guiding the problem solving, but gradually this responsibility transfers to the child.
41. Language is a primary form of interaction through which adults transmit to the child the rich body of knowledge that exists in the culture.
42. As learning progresses, the child's own language comes to serve as her primary tool of intellectual adaptation. Eventually, children can use internal language to direct their own behavior.

43. 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.
44. A difference exists between what child can do on her own and what the child can do with help. Vygotskians call this difference the zone of proximal development.
45. Since much of what a child learns comes from the culture around her 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.
46. Interactions with surrounding culture and social agents, such as parents and more competent peers, contribute significantly to a child's intellectual development.

47.

How Vygotsky 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 take into account the zone of proximal 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. Assessment methods must target both the level of actual development and the level of potential development.

Reading

Vygotsky, L.S. (1962). *Thought and language*. Cambridge, MA: MIT Press. (Original work published 1934)

Vygotsky, L.S. (1978). *Mind in Society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

A paper by James Wertsch and Michael Cole titled “The role of culture in Vygotskian-informed psychology”. This paper gives an accessible overview of the main thrust of Vygotsky’s general developmental framework and offers a contrast to the Piagetian approach.

This is an introduction to some of the basic concepts of [Vygotskian theory](#) (culturally-mediated identity) by Trish Nicholl.

This is a site for [Cultural-Historical Psychology](#) and provides a periodically-updated listing of Vygotskian and related resources available on the Web.