

## Snapshot of Learning Theories

**Learning Theories are conceptual frameworks that describe how information is absorbed, processed, and retained during learning.**

### **Adult Learning (Andragogy) – Oxford Brookes University**

<http://www.brookes.ac.uk/services/ocslid/resources/theories.html>

Malcolm Knowles (1978, 1990) is the theorist who brought the concept of adult learning to the fore. He has argued that adulthood has arrived when people behave in adult ways and believe themselves to be adults. Then they should be treated as adults. He taught that adult learning was special in a number of ways. For example:

- Adult learners bring a great deal of experience to the learning environment. Educators can use this as a resource.
- Adults expect to have a high degree of influence on what they are to be educated for, and how they are to be educated.
- The active participation of learners should be encouraged in designing and implementing educational programs.
- Adults need to be able to see applications for new learning.
- Adult learners expect to have a high degree of influence on how learning will be evaluated.
- Adults expect their responses to be acted upon when asked for feedback on the progress of the program.

Here is a quote from Burns (1995, p.233)

By adulthood people are self-directing. This is the concept that lies at the heart of andragogy ... andragogy is therefore student-centred, experience-based, problem-oriented and collaborative very much in the spirit of the humanist approach to learning and education ... the whole educational activity turns on the student.

### **Adulthood as a social construction**

Pogson and Tennant (1995) provide a perspective of adulthood as a social construction. They say that the concept of a life's course varies for different individuals and different cultures; therefore trainers and adult educators should be wary of definitive views of adults and their behaviour.

Burns would probably support this view as he discusses the notion that 'definitions of the adult are not clear' and says 'the same is true of adult education'. He discusses the 'petrol tank' view of school education: 'fill the tank full at the only garage before the freeway, then away we go on life's journey' (1995, p.227). He goes on to discuss that problems can arise when people have not had their tank filled completely at school and he extends the metaphor to suggest that there should be service stations along 'the length of the highway of life.'

The question could be asked - when is maturity complete? Is there no further development after a certain stage in life?

Some authors think that while children at approximately the same age are at approximately the same stage of development, the same cannot be said of adults. Adults would vary in levels of knowledge and also in their life experiences. There could be said to be tremendous variation in adult experience.

### An adult's emotional response can affect learning

Some adults can approach formal educational settings with anxiety and feelings of high or low self-efficacy. Their approach to new learning contexts can be influenced by how they appraise or evaluate the new experience.

for example: given two adults in a classroom where an exercise is about to begin, one individual may interpret the exercise in such a way that leads to a feeling of 'excitement', while the other person interprets the exercise in such a way that leads to the feeling of 'embarrassment'. It is self evident that the way the individual interprets the situation and the subsequent emotion that arises, will affect the kind of action the individual is to take. (Burns, 1995, p.16)

Burns considers that such appraisals, coupled with labels such as 'fear' or 'anxiety' can lead some learners to emotionally disengage from the source of discomfort that is the learning experience. However, when coupled with labels such as 'excitement' or 'challenge' the learner is led to take actions that focus on the task.

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### Outline of Educational Learning Theories and Theorists:

<http://www.teachersgarden.com/professionalresources/learningtheorists.html>

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 kinds 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.

## Learning: Theory and Research – from University of California, Berkeley

<http://gsi.berkeley.edu/teachingguide/theories/overview.html>

### Overview of Learning Theories

Although there are many different approaches to learning, there are three basic types of learning theory: behaviorist, cognitive constructivist, and social constructivist. This section provides a brief introduction to each type of learning theory. The theories are treated in four parts: a short historical introduction, a discussion of the view of knowledge presupposed by the theory, an account of how the theory treats learning and student motivation, and finally, an overview of some of the instructional methods promoted by the theory is presented.

	<u><a href="#">Behaviorism</a></u>	<u><a href="#">Cognitive Constructivism</a></u>	<u><a href="#">Social Constructivism</a></u>
<b>View of knowledge</b>	Knowledge is a repertoire of behavioral responses to environmental stimuli.	Knowledge systems of cognitive structures are actively constructed by learners based on pre-existing cognitive structures.	Knowledge is constructed within social contexts through interactions with a knowledge community.
<b>View of learning</b>	Passive absorption of a predefined body of knowledge by the learner. Promoted by repetition and positive reinforcement.	Active assimilation and accommodation of new information to existing cognitive structures. Discovery by learners.	Integration of students into a knowledge community. Collaborative assimilation and accommodation of new information.
<b>View of motivation</b>	Extrinsic, involving positive and negative reinforcement.	Intrinsic; learners set their own goals and motivate themselves to learn.	Intrinsic and extrinsic. Learning goals and motives are determined both by learners and extrinsic rewards provided by the knowledge community.
<b>Implications for Teaching</b>	Correct behavioral responses are transmitted by the teacher and absorbed by the students.	The teacher facilitates learning by providing an environment that promotes discovery and assimilation/accommodation.	Collaborative learning is facilitated and guided by the teacher. Group work.