# A Learning Model

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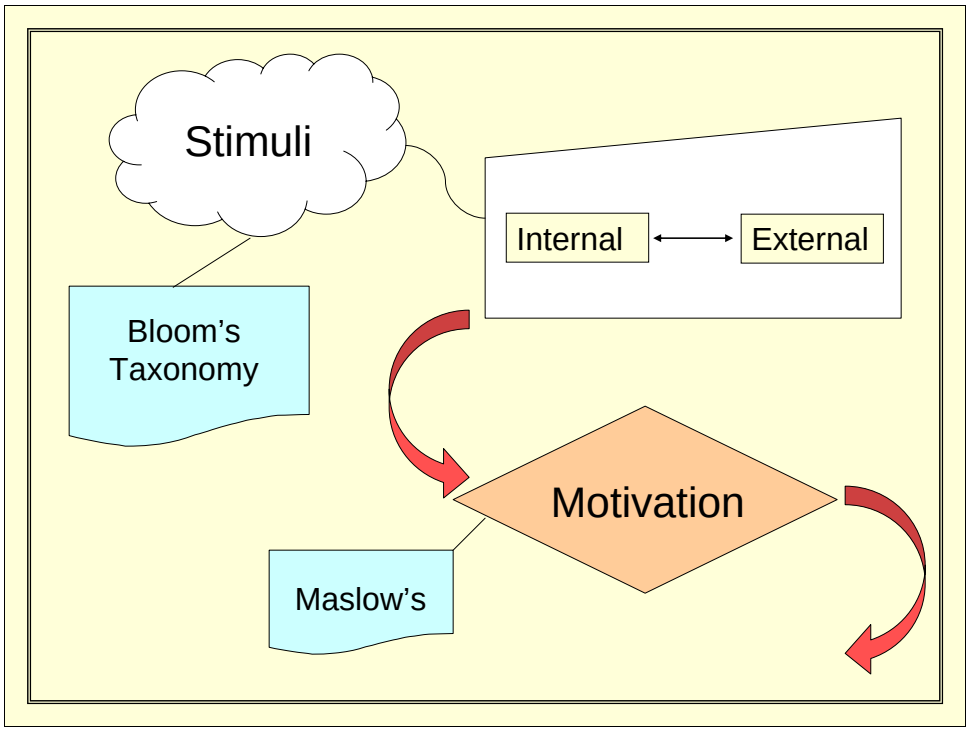


**Stimuli**

Defined as: something that causes growth or activity; to make someone excited and interested about something; if something is stimulating, it encourages new ideas

According to Bloom, learning can be divided into three domains: cognitive (knowledge), affective (attitude) and psychomotor (manual or physical). Bloom explains that thinking skills can be arranged in a pyramid and subdivided into six categories or degrees of difficulty in which the first must be mastered before the next one can take place. The higher on the model one progresses, the more abstract the thinking becomes. Bloom created this taxonomy for categorizing level of abstraction of questions that commonly occur in educational settings. The taxonomy provides a useful structure in which to categorize questions and stimulate the learner.

Bloom's Taxonomy can be utilized as a stimulus tool to motivate the learner to learn.

**Motivation**

Defined as: a response to stimuli

Motivation can be internal or external. Internal motivation is described as being inborn instincts and internal drives and wants from within. They are not controlled by the learner rather, they control the learner. External motivators are those influenced by external drives or the environment around us such as others people or the media and can be controlled by the learner.

Maslow defines a hierarchy of needs that include: physiological needs, safety, love, self - esteem and self-actualization. According to Maslow, one is not motivated to go to the next level of the hierarchy until the current level of need is fulfilled. Motivation moves one into the next level of the learning model which is where the transference of information takes place.

References

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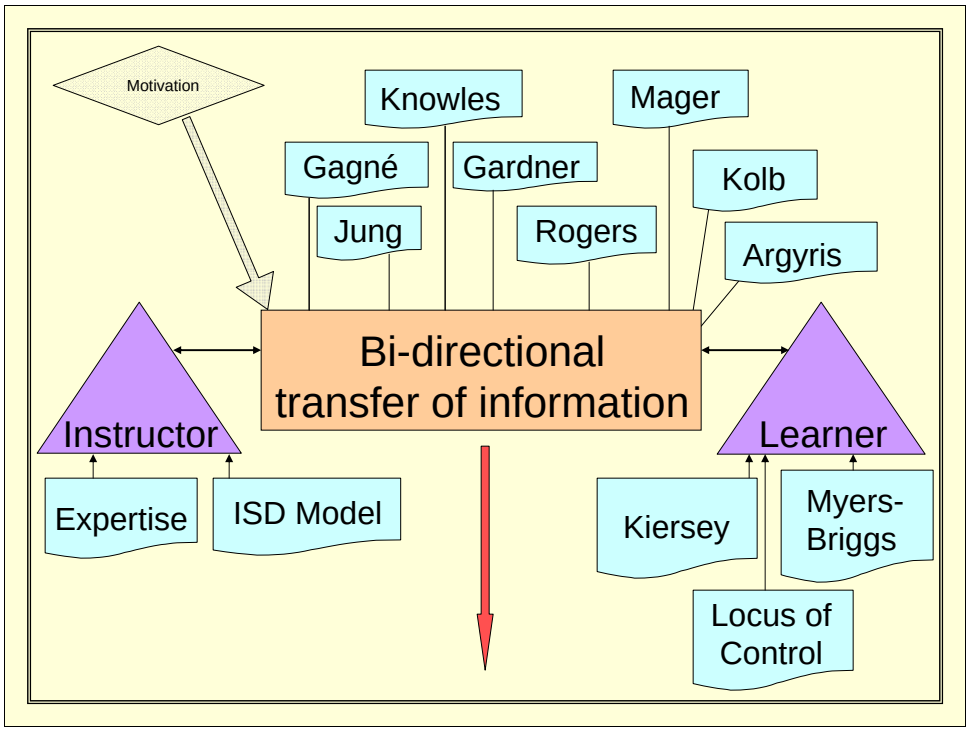



After an adult learner gains motivation, the instructor and the learner come together in a "bidirectional exchange of information". For true learning to occur, there must be an important balance between the instructor and student. However, the theories of leading psychologists (Gagne, Jung, Knowles, etc.) also add particulars to the model. Like a snowflake, no two learners are exactly alike. Thus, it is important to accommodate different theories into the process.

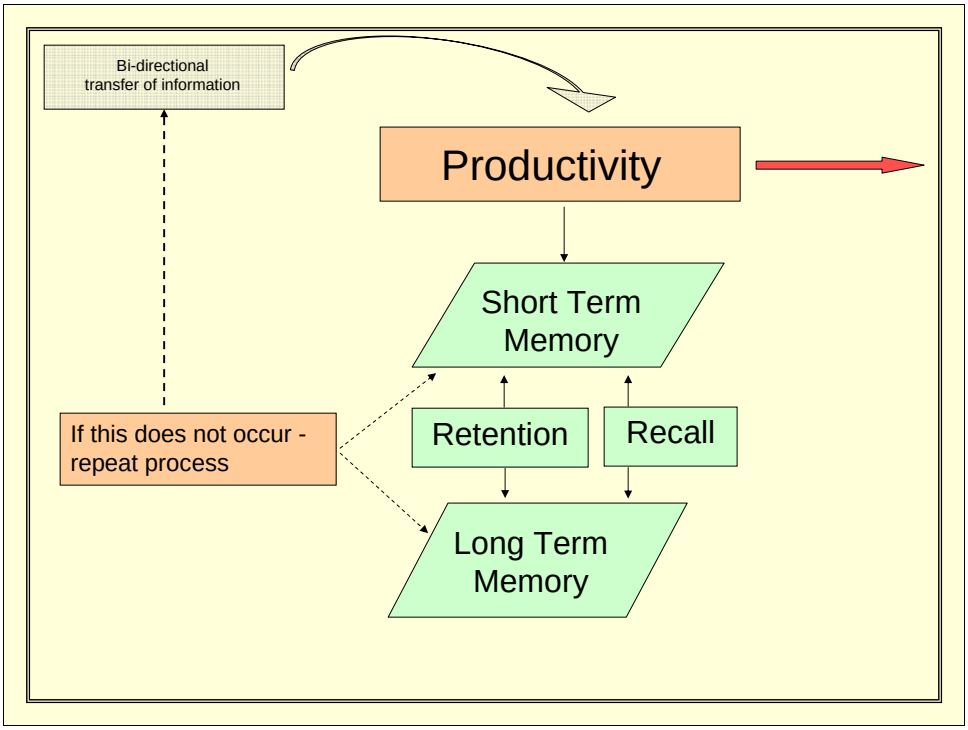
On one side, the instructor must use his/her expertise and develop a plan to bring the information to the student. The instructor's formal education and personal past factor into how the instructor will deliver the information appropriately. The instructor is also responsible for creating a model in which to develop and convey the curriculum (such as the ISD model).

The learner partners with the instructor with his or her learning style and level of reinforcement beliefs, or locus control. *Locus of Control* is the level of how the outside world determines your actions. If a learner requires high levels of outside support, the learner is said to have an external locus of control. If the learner is completely self-reliant, then he or she is said to have an internal locus of control (Pettijohn, 1996). The student's relationships to the outside world, coupled with personality profiles (i.e. Myers-Briggs Type Indicator® and Kiersey-Bates Temperament Sorter®) further define the learner's needs. Both the instructor and learner meet in the middle to engage in a particular learning activity. In a true andragogy model, the instructor and student agree on a particular learning activity that best meets the learning objectives and style of the student.

Reference: Pettijohn, T (1996) *Locus of Control* Retrieved April 8, 2005 from http://www.dushkin.com/connectext/psy/ch11/survey11.mhtml

As you can see on the handouts, in my group's particular model, we felt the learner should be in the center of the entire learning process. However, in each learning activity, the instructor and student work together in equal partnership. Leading educational psychologists have developed different instructional methods for the teacher and learner. Based on the educational experience and environment, the instructor and learner exchange information. Some of the leading theories discussed in class have been incorporated in our model.

After having the proper motivation to enter into our graduate program, each instructor comes to the class with experience, prior education, and lesson plans (expertise and particular learning model). Being the learner, we have certain learning preferences and personality profiles (Kiersey and Myer's Briggs), which dictates how we best process new information. The instructor and meet in class each week through specific learning activities based on set objectives. Furthermore, the instructor exchanges information with the student based on theories from leading educational psychologists. (Gagne, Mager, Rogers, et al.)




According to Gagné, determining whether or not the skills learned from a training program are ever applied back on the job often remains a mystery to trainers. Effective training programs have a "performance" or **productivity** focus, incorporating design and media that facilitate retention and transfer to the job. The repetition of learned concepts is a tried and true means of aiding retention. (There was a reason for writing spelling words ten times as grade school student.) Creating electronic or online job-aids, references, templates, and wizards are other ways of aiding performance.

**Short-term memory** acts as a scratch-pad for temporary recall of the information under process. For instance, in order to understand this sentence you need to hold in your mind the beginning of the sentence as you read the rest. Short term memory decays rapidly (200 ms.) and also has a limited capacity. Chunking of information can lead to an increase in the short term memory capacity. That is the reason why a hyphenated phone number is easier to remember than a single long number.

**Long-term memory** is intended for storage of information over a long time. Information from the working memory is transferred to it after a few seconds. Unlike in working memory, there is little decay. There are three main activities related to long term memory: **storage, deletion and retrieval**.

Information from short-term memory is **stored** in long-term memory by rehearsal. The repeated exposure to a stimulus or the rehearsal of a piece of information transfers it into long-term memory. Experiments also suggest that learning time is most effective if it is distributed over time. **Deletion** is mainly caused by decay and interference.

There are two types of information **retrieval**: recall and recognition. In recall, the information is reproduced from memory. In recognition the presentation of the information provides the knowledge that the information has been seen before.

If this process does not occur, then the transference of information process will need to be repeated to acquire the desired outcome of learning.

References

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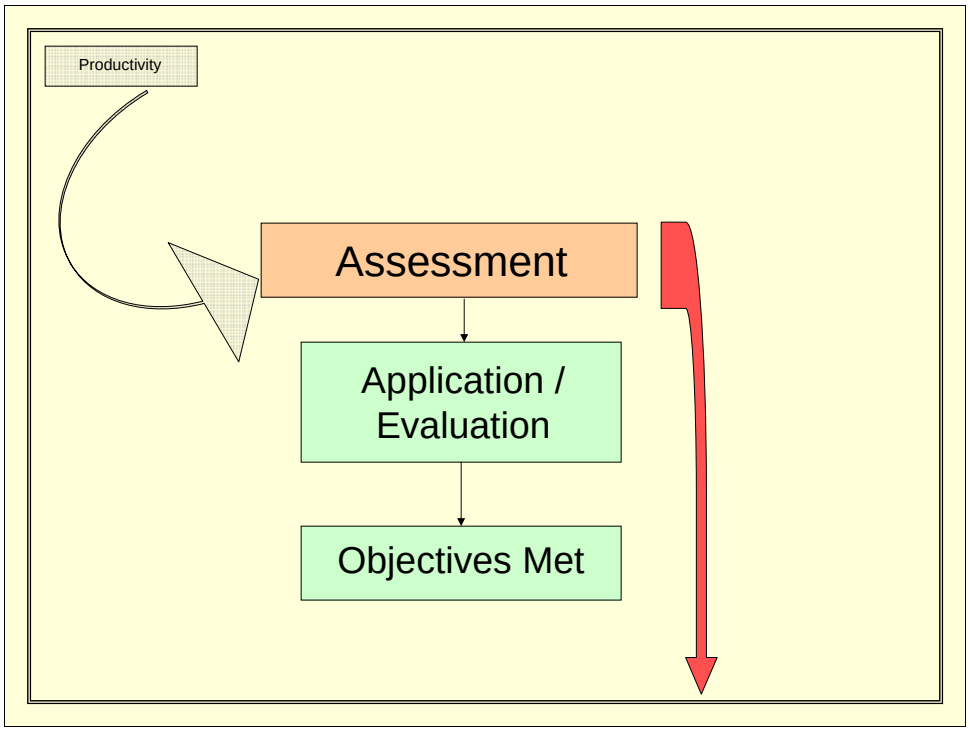



In the Assessment Phase of our learning model, instructors and learners determine the validity of the learning process by evaluating the transfer of learning through quantitative and qualitative measurements.

Robert Gagné (1985) classified the **types of learning outcomes.** A good way to identify the types of learning is to ask *how* learning could be demonstrated:

•intellectual skills – concepts are demonstrated by **labelling** or **classifying** things,

•intellectual skills – rules are **applied** and principles are **demonstrated**,

•intellectual skills - problem solving allows **generating** solutions or procedures,

•cognitive strategies are **used** for learning,

•verbal information is **stated**,

•motor skills enable **physical** performance,

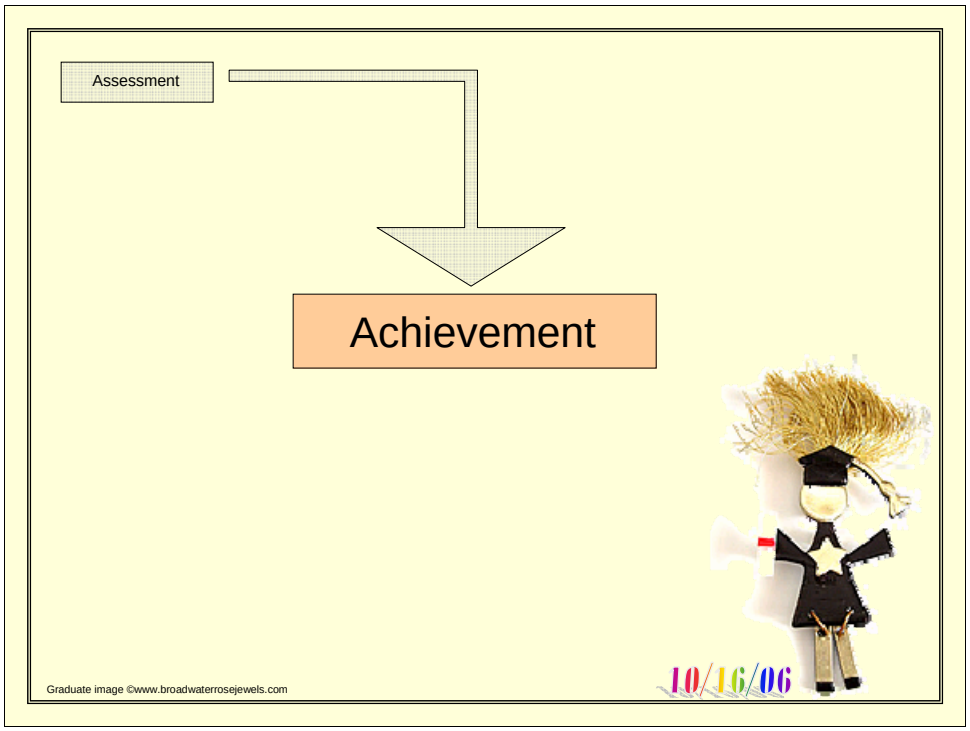
•attitudes are demonstrated by **preferring** options.

These outcomes are the results of the internal processes of learning in individual learners.

Source: Bostock, Stephen. (1996, revised 2004). *Instructional Design - Robert Gagné, The Conditions of Learning*. Available on-line at <www.keele.ac.uk/depts/cs/Stephen_Bostock/docs/atid.htm>. Retrieved March 22, 2005.

Gagné emphasizes that intellectual skills are not units of verbalized knowledge. Thus, he states that in deriving them "one must carefully record statements about 'what the individual can do' and just as carefully avoid statements about 'what the individual knows.' ... What learning hierarchies describe is, in computer language, subroutines of a program; what they do not describe [are] the facts or propositions retrievable from memory as verbalized statements." Gagné does not completely discard verbalized knowledge. But he does think that "the most important things learned in school are intellectual skills, and not verbalized knowledge." Cognitive strategies are a special kind of intellectual skills that pertain to the behavior of a learner, regardless of what he (she) is studying. Specifically, they are internally organized capabilities that a learner employs in guiding his processes of attending, learning, remembering, and thinking.

Source: Anand, P. (1999), *Gagné's Eclectic Behaviorism.* Available on-line <http://www.sru.edu/depts/educatio/psycholo/panand/gagne.htm>. Retrieved April 16, 2005.




Achievement is the pinnacle of our learning model. It is both a measurable event and a sensation to both the Instructor and Learner. Although it is the pinnacle, of the model, Achievement generally provides the Learner an impetus – or motivation – to seek further learning.

In his widely cited "Teacher's Dozen," Thomas Angelo writes

•High expectations encourage high achievement; and,

•Instructors must show that mastery of content will lead to accomplishment of other important goals.

Source: Angelo, T. A. (1993). "A Teacher's Dozen: Fourteen General, Research-Based Principles for Improving Higher Learning in Our Classrooms." *The AAHE Bulletin*, 45(8), pp. 3-7 & 13.

Eftekhar and Strong studied university instruction and developed a learning model from their work. They write, "…as Amount-Learned increases, the student will achieve more and have a higher test result (Assessment) This leads to more Comfort and subsequently, less Demand for further (instantaneous) Learning." Essentially, their model identifies a continuous loop from Motivation and Comfort to Productivity and Amount-Learned. Thus, students in a "positive feedback loop" enjoy "an increase in the flow of Learning and a subsequent increase in the Amount-Learned."

Source: Eftekhar, N. and Strong, D. R. (1999). *Dynamic Modeling of a Learning Process*. Available on-line at http://www.ijee.dit.ie/articles/999995/article.htm. Retrieved March 22, 2005.