Basic/Fundamental Terminology and Concepts in Learning Theories

Here are some basic concepts organized alphabetically:

Aptitude: There are two views of aptitude. The first definition proposes that aptitude comprises **individual differences** that develop from a ***combination of innate and environmental influences***. Aptitude reflects a current ***repertoire of behaviors*** and behavioral tendencies that predict subsequent learning.

The second and quite different definition proposes that aptitude comprises individual differences that are ***innate and largely unchanging*** and immutable within normal circumstances. That is, aptitude is raw material that either facilitates learning or is actively used to learn.

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use those information about "***aptitude***" in learning situations in general, and in (EFL) classroom settings in particular. Example: we can use "***Language Aptitude Tests***" to allow access to foreign language departments at universities or refuse that access, depending on results right from the middle through secondary schools—only students with a clear aptitude in foreign languages can go to study foreign languages at the university.

Attention: "…the *taking possession of the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought*'' William James (1842–1910).

It is a **selective concentration** or focus on a particular stimulus or stimuli. Attention describes the focusing of perceptive awareness on a **particular stimulus** or **set of stimuli** that results in the **relative exclusion** of other stimuli and is often accompanied by an increase in the readiness to receive and to respond to the stimulus or set of stimuli involved. A state of attention may be produced initially in many ways, including as a **conscious, intentional decision**, as a normal function of **social interaction** (listening to someone talking to you), or as a reaction to an **unexpected event** (here attention is automatic and not selective). In any case, attention is a **fundamental component of learning**. There is evidence that very young human infants have an innate ability and inclination to attend to, however briefly, particular instances of auditory or visual stimulation.

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***attention***" in learning situations in general, and in (EFL) classroom settings in particular. Example: people can attend to not only one information (stimulus), but to many at the same time (example of drivers, stockbrokers, etc). How could you apply this in your job?

Cognition: Cognition refers to thinking and the mental processes humans use to **solve problems, make decisions, understand new information or experiences, and learn new things**.

It is a general term for the higher **mental processes** (and there are many such processes) by which people acquire knowledge, solve problems, and **plan for the future**. Cognition depends on the **ability to imagine or represent objects and events that are not physically present** at a given moment. Cognitive functions include attention, perception, thinking, judging, decision making, problem solving, memory, and linguistic ability, to cite but a few examples.

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***cognition***" in learning situations in general, and in (EFL) classroom settings in particular. Example: How could you make your students cognitively (not only affectively or behaviorally) engaged in a task so as they become competent and intelligent thinkers, actors, and decision takers?

Concentration: The action of bringing to or towards a **common centre** or **focus**; the state of being so brought or massed together. The keeping of the mental faculties fixed on one object or set of objects. Concentration, which is a sharper attention, is governed by many factors such as the intensity of the information, its novelty, its importance, its uniqueness or strangeness, etc., but also, like attention, by the physio-psychological state of the individual in question.

Concept formation: Learning process by which items are categorized and related to each other. A concept is a generalization that helps to ***organize information into categories***. For example, the concept "square" is used to describe those things that have **four equal sides** and **four right angles** *(which are its essential attributes).* Thus, the concept categorizes things whose properties meet the set requirements. The way young children learn concepts has been studied in experimental situations using so-called artificial concepts such as "square." In contrast, **real-life, or natural, concepts** have **characteristic rather than defining features**.

For example, a robin would be a prototypical or "good" example of the concept "bird." A penguin lacks an important defining feature (or attribute) of this category—flight, and thus is not as strong an example of a "bird." Similarly, for many children the concept "house" represents a squarish structure with walls, windows, and a chimney that provides shelter. In later development, the child's concept of house would be expanded to include nontypical examples, such as "teepee" or "igloo," etc.

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***concept formation***" in learning situations in general, and in (EFL) classroom settings in particular. Example: how would you help children or adolescents understand abstract concepts such as "cold war, Language Acquisition Device, grammar tenses/conjugation, etc."?

Creativity: Creativity is among the most valued yet least understood of educational psychology ***constructs***. For the purposes of this entry, creativity is defined as the ***interaction among aptitude, process, and environment*** by which an individual or group is able to ***produce original (unique, novel, unusual) and adaptive (useful, appropriate, meaningful) interpretations, ideas, behaviors, solutions, or products.***

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***creativity***" in learning situations in general, and in (EFL) classroom settings in particular. Example: as would-be teachers, you would show a strong creativity to produce good results even when the school's resources (money, materials, books, personnel, etc) are poor or very limited. Another example: being a **flexible teacher** encourages children to be creative and engage their ideas, and propose alternatives which do not necessarily comply with the official lesson/curriculum.

Disabilities: Disability has been conceptualized in terms of **type** (see the four types below**)**, **function**, and **social construction**. Most commonly, perhaps, disability has been construed as a type of limitation with particular characteristics. The **four major types** are: (1) physical (e.g., spinal cord injury, polio); (2) sensory (e.g., deafness, blindness); (3) cognitive (e.g., learning disability, intellectual disability); and (4) emotional (e.g., schizophrenia, bipolar disorder). **Functional** (not being able to independently bathe, walk, etc.). **The socially constructed approach** recognizes the role of society in **defining disability**. A basic principle is that a disability is defined as an individual's inability to perform in some socially valued way.

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***disability***" in learning situations in general, and in (EFL) classroom settings in particular. Example: when implementing group/cooperative work in you class, what criteria should be respected to form the groups? Another example: how would you control task difficulty depending on the type of disability (making sure that everyone has his/her chance to learn something)?

Empiricism: Type of research that is based on **direct observation**. This is a rival to Rationalism.

Psychologists prefer to learn about behavior through direct ***observation or experience***. This approach reflects what is called empiricism. Psychologists are well-known for creating experiments, conducting interviews and using surveys, and carrying out case studies. The common feature of these approaches is that psychologists wait until observations are made before they draw any conclusions about the behaviors they are interested in. In short, empiricism, in its radical sense, rejects any knowledge **derived purely from the mind** (imagined, thought, or reasoned).

Encoding: The reception by the brain of some ***physical input*** that is changed into a form that the memory accepts. When a person is introduced to someone new, for example, that person's name becomes a part of memory. Before information can be encoded, it first must be recognized (perceived) and noted by the recipient. Encoding is important (a medium) when transferring data from short-term memory to long-term memory. Encoding takes place with such cognitive operations such as chunking, rehearsing, rote learning, brain storming, schemata, etc.

Intelligence: An abstract concept whose definition continually evolves and often depends upon current social values as much as scientific ideas. Modern definitions refer to a variety of mental capabilities, including the ability to reason, plan, solve problems, ***think abstractly***, ***comprehend complex ideas***, ***learn quickly***, and learn from experience as well as the potential to do so.

Howard Gardner defines intelligence as ''a ***biopsychological*** potential to process information that can be activated in a cultural setting ***to solve problems or create products that are of value in a culture***.'' By considering intelligence a potential, Gardner asserts its emergent and responsive nature, thereby differentiating his theory from traditional ones in which human ***intelligence is fixed and innate***. Whether a potential will be activated is dependent in large part on the ***values of the culture*** in which an individual grows up and the opportunities available in that culture, although Gardner also acknowledges the role of personal decisions made by individuals, their families, and others. These activating forces result in the development and expression of a range of abilities (or intelligences) from culture to culture and also from individual to individual. For Gardner the number of intelligences is not exactly known (more than the eight he identified). The eight types of intelligence identified by

Howard Gardner are: ***linguistic, mathematical (or logical), kinesthetic (or bodily), interpersonal, intrapersonal, musical (artistic), spatial, and naturalistic.***

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***intelligence***" in learning situations in general, and in (EFL) classroom settings in particular. Example: the was a tradition which stated that people's intelligence could be measured in with an IQ test (***with an overall score***) which would indicate whether one is intelligent or definitely not intelligent. Yet, there are people who have a ***very sharp intelligence in sport*** but have absolutely no understanding of basic ***mathematics or grammar***! How does this make sense to you as would-be teachers?

Learning: The action of receiving instruction or acquiring knowledge. In Psychology, a process which leads to the ***modification of behaviour*** or the ***acquisition of new abilities or responses***, and which is ***additional*** to natural development by growth or maturation.

Memory: The ability to store and later recall previously learned facts and experiences. Short Term Memory and Long Term Memory are two distinct parts. Studies about memory are conducted within ***Information Processing Theories***—the way people attend to, receive and retrieve information.

Motivation: The "why/what for?" of an action/behaviour. There are many theories about motivation that fall into four broad approaches: **humanistic, behaviourist, sociocultural, and cognitivist.** See lecture about motivation for more details.

Rationalism: This philosophical doctrine is the campaigning arm of rationality and is opposed to empiricism. It asserts that ***reason is the sole valid basis for objective knowledge***. This doctrine influenced "innateness" and "mentalism" in modern studies. In short, rationalism supporters (starting from Plato) believe that people could arrive at certain information/knowledge/truth with the sheer power of the mind and not necessarily through direct observation (or with the five senses).

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***Empiricism and Rationalism***" in learning situations in general, and in (EFL) classroom settings in particular. Example: Are the two completely separate? Think about some classroom activities which could help learners think empirically and rationally—i.e. activities which could help them demonstrate their skill to prove something empirically and skill to analyse something rationally.

Reasoning: Two types—inductive and deductive. Way of thinking that relates ideas to one another in reaching conclusions.

Deductive reasoning is a way of reasoning that relates ***two or more*** general concepts or conditions to ***a* specific case**. For example, a child learns that birds fly south in October, and that a robin is a bird, he will use deductive reasoning to conclude that a robin will fly south in October. Deductive reasoning is often confused with ***inductive reasoning***, which uses a ***specific observation to reach a general conclusion***. When a child uses inductive thinking or reasoning, he or she engages in the evaluation and comparison of facts to reach a conclusion. Inductive reasoning progresses from observations of individual cases to the development of a generality. (Inductive reasoning, or induction, is often confused with deductive thinking; in the latter, general principles or conditions are applied to specific instances or situations.) If a child puts his or her hand into a bag of candy and withdraws three pieces, all of which are red, he or she may conclude that all the candy is red. Inductive reasoning, or induction, is the process by which a general conclusion is reached from evaluating specific observations or situations.

Stop and think: According to the above definition and the examples generated in the lecture, think about the ways you could use your knowledge about "***inductive and deductive reasoning***" in learning situations in general, and in (EFL) classroom settings in particular. Example: there are two techniques to teaching grammar: inductive and deductive. Could you propose other activities wherein induction and deduction could be used, knowing that ***induction is generally associated with discovery learning.***

Skill: Capability of accomplishing something ***with precision and certainty***; practical ***knowledge in combination with ability; cleverness, expertness***. Also, an ability to perform a function acquired or learnt ***with practice.*** In language learning, listening, speaking, reading and writing are the most clearly distinguishable skills (the four skills). In short, skill could be defined in a very simplified way as a sharper and more precise aptitude to do something to perfection or near perfection.

Socialization: The process by which a person learns to conform individual behavior and responses to the norms and values of society. Put more simply, it is the process of integrating a group/team/community, etc. (this is an important element in Maslow's hierarchy of needs and theory of motivation and learning).

Thinking: Dewey's (1933) classic introduction to 'How We Think' offers an overview of some of the different senses in which the term thinking is used:

- thinking as a 'stream of consciousness' and the everyday 'uncontrolled coursing of ideas through our heads', including dreaming and daydreams (p. 3)

- thinking as imagination or mindfulness which is ‘usually restricted to things not directly perceived’ since we tend to say ‘I saw a tree’ rather than ‘I thought of a tree’ if we are actually standing with our eyes open in front of one (p. 5)
- thinking as synonymous with believing expressed in statements such as ‘I think it is going to rain tomorrow’: in this sense it is contrasted with knowledge and the level of confidence with which we express such a belief (p. 6)
- reflective thinking as a chain of thought leading, through enquiry, to a conclusion (p. 9): this, of course is Dewey’s aim in defining and recommending reflective thinking as the basis of both rationality and action.

Thinking, for Dewy and as expressed by the last point of the above definition, is to be encouraged and developed holistically (***analyzing relationships among*** elements in a sum/a whole/a unit) which systematically encourages and stimulates inductive/deductive reasoning and discovery learning.