

THE CONCEPT, TYPES, CHARACTERISTICS AND LAWS OF LEARNING AND CLASSROOM IMPLICATIONS

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Abstract

With Discretion And Initiation, A Teacher Can Plan What She Wants To Teach Her Students A Week In Advance. At The College Or University Level, Subject Matter Contents Are Usually Determined By The Teacher In Charge Of The Course. There Is More Flexibility In Planning What To Teach A Particular Class At The College. The Task Of The College Instructor Or Teacher In Planning What To Teach A Particular Class Is More Cumbersome Than The Task Of A Secondary School Teacher. In The Skilled Subject Class Such As Typewriting, And Shorthand, The Secretarial Teacher Must Determine Whether Speed Is More Important Than Accuracy In Beginning Typewriting And Shorthand Class, And Whether Emphasis Should Be On Speed Building Or Mastery Of The Keyboard Or Basic Shorthand Theories. The "When" Question In Teaching: A Teacher Must Decide When It Is Appropriate To Introduce A Given Learning Activity Or Educational Experience To The Students So As To Help The Students Achieve A Predetermined Educational Goal Or Objectives. The Present Paper Is On The Concept, Types, Characteristics And Laws Of Learning: Classroom Implications Of The Laws To Guide The Teacher To Answer Such Questions.

Key Words: Concepts, Laws, Learning, Characteristics, Implications And Class Room

Introduction

The American Federation of Teachers and the National Education Association of US (AFT and NCA) described a teacher as "The educator, believing in the worth and dignity of each human being, recognized the supreme importance of the pursuit of truth, devotion to excellence, and the nurture of the democratic principles. Essential to these goals, is the protection of freedom to learn and to teach and the guarantee of equal education opportunity for all. The educator accepts the responsibility to adhere to the highest ethical standard." (McNergney and McNergney 2007). Obulom (1999) defined teaching as "a process of making things known to people." Traditionally, teaching has been seen as "imparting knowledge". This implies that teaching gives the learner sense of the teacher's "wisdom" usually consisting of an abundance of facts and other supposedly vital information.

The meaning of the concept "teaching" at this point seems to be incomplete because the knowledge of facts and other information is only a small part of what the learner can be taught. In the cause of teaching, there are other facts which the learners are required to know. The learner should be required to learn how to think logically, analytically, creatively and critically. The students should be able to express themselves in spoken language of taught, (such as English language) and writing, and to consider the thoughts of others through listening and reading; in other words, to develop communication skills and how to relate and interact with others in a socially acceptable way.

All students have had hundreds of teachers in their lifetimes. A very few of these teachers they remember as being exceptionally good. The question is, "What are the qualities that combine to create an excellent, memorable teacher"? Why do some teachers inspire students to work harder than they normally would, while others inspire students to skip class?

And why do students learn more from some teachers than others? To answer these questions, the four essential qualities that distinguish exceptional teachers always come to play. They are knowledge, communication skills, interest and respect for students (Carney 2010). This was agreed with Okorie (1979) who sees teaching as “the acquisition of knowledge through the active participation of the learner when he is guided”. This implies guiding the learner in his attempt to acquire knowledge and not instructing the learner or forcing the learner to learn. To guide involves, knowledge, communication, personal interest and respect for the learner.

A good teacher is he/she who acquires these attributes and uses them in the process of teaching. In addition to classroom instruction, the teacher must be able to plan the teaching-learning activities in advance, deciding in advance; what; when; why; how; and who in the learning process.

The “what” question in teaching: At the secondary school level, subject matter contents are usually determined by the Ministry of Education or by the West African Examination Council. The teacher however, must decide on the unit of sequence for the level of his/her class. It is wrong for a secondary school teacher to adhere strictly to the sequence suggested by a state wide scheme of work in a particular subject. The present paper is on the concept, types, characteristics and laws of learning and the classroom implications of the laws.

The Concept of Learning

Learning and teaching are two concepts that cannot be separated. To learn means that someone is passing some experience which exposes the learner and sensitizes him/her into action. Learning goes with teaching. To teach means that there is a learner. Learning brings about a change in behavior or the origination of an action spurred by an encounter with someone else experience or a change in character manifested due to an increase in experience or knowledge guided by a person. Oladele (2004) defines learning as “a process by which one profits from past experience.

It is a process that leads to relatively permanent change in behavior resulting from exposure to conditions in the environment and experience or practice”.

According to Oladele (2004), the evidence that one is learned can be inferred from a change in the individual’s performance or behavior rather than just having a broad based knowledge as the legal profession sees it. The change (which is permanent) may manifest in behavior which are seen as gains or having survival or adaptive values to the individual. Cameron (1994) defined learning as “in its broadest sense, as a process of progressive change from ignorance to knowledge, from inability to competence, and from indifference to understanding...in much the same manner, instruction or education can be defined as the means by which we systematize the situations, conditions, tasks, materials, and opportunities by which learners acquire new or different ways of thinking, feeling and doing”. Again Johnson and smith (1991) defined learning as “a social process that occurs through interpersonal interaction within a cooperative context. Individuals working together, construct shared understandings and knowledge”.

Most models of learning assumed that the purpose of learning is to incorporate new information or skill into the learner’s existing knowledge structure and to make that knowledge accessible. Learning begins with the need for some motivation, an intention to learn. The learner must then concentrate attention on the important aspects of what is to be learned and differentiate them from noise in the environment. While those important aspects are being

identified, the learner accesses the prior knowledge that already exists in memory, because a key to learning is connecting what is known to what is being learned. New information must be processed, structured and connected in such a way as to be accessible in the future, this process is known as encoding.

The deeper the processing of the information in terms of its underlying organization, the better the learning and later retrieval of that information and it requires active involvement of the learner. The learner must verify an understanding of the structure by receiving feedback from the internal and external environments, on the encoding choices made.

Characteristics of learning:

If we are of the opinion that learning can be inferred only from performance, it should be recognized that performance is influenced by other factors. At this juncture, how can the concept "learning" be defined? A standard definition of learning must have to include certain properties of the concept. These properties are the basic characteristics of learning, and they are as follows:

- a) Learning is a construct which means that it is not something directly observed. Thus, learning is an inferred or hypothetical concept like gravity or electricity. Human beings do not see gravity directly; we observe falling objects and therefore infer that such a process exists.
- b) Learning involves a change in behavior or capacity which may be for the better or worse, intentional or unintentional.
- c) The concept of learning is tied to condition of practice, experience, study or training which serves to distinguish learning from performance (Which changes are attributable to other condition, such as fatigue, maturation, drug stages and native response tendencies). This simply emphasizes that the conditions antecedent to learning are practice conditions as distinct from other kinds of conditions.
- d) Learning is a relatively permanent process in nature, which is useful in order to distinguish learning from other more temporary processes.

Types of Learning:

Gagne (1977) identifies eight types of learning which he hierarchically arranged from low order to high-order learning as follows:

1. Signal learning (classical conditioning),
2. Stimulus-Response (S-R) Learning (Operant Conditioning),
3. Chain Learning,
4. Verbal Association Learning,
5. Discrimination Learning,
6. Concept Learning,
7. Rule (Principle) Learning, and
8. Problem Solving.

These represent the various forms of learning that can take place in human beings. They are briefly explained as follows:

Signal Learning: This is the type of learning in which the learner makes some kind of general emotional response to a stimulus, or signal. It is known as Type I. A good example of signal

learning is the Pavlov's classical conditioning. When Pavlov's dog heard the sound of the bell alone, it salivated thereby responded. When the sound of the bell is repeated for many times, it is therefore being paired with the conditional stimulus. An example of signal learning is a student being anxious at the sight of an examination question paper and answer booklet.

Stimulus-Response Learning: This type of learning is simply known as Type 2. It is the trail-and-error of learning of Edward L. Thorndike or Operant Conditioning of B. F. Skinner or Instrumental Conditioning of Kimble and others of the S-R with reinforcement theories of Learning. The process involves response modification or change until the learner is able to acquire a precise response to a discriminated stimulus.

Chain Learning: It is known as type 3 and refers to the connection of a set of individuals Ss-Rs in a sequence. It is learning to connect a series of previously learned stimulus response connections. According to Gagne (1977), unless the individual is capable of performing his Ss-Rs links, "the chain as a chain cannot be learned. This emphasizes that learning type 3 requires type 2 as a prerequisite.

Verbal Association Learning: This is related to verbal chaining, verbal sequence, and verbal information. Verbal associations and verbal sequences are the most elementary kind of verbal behavior when compared with the most meaningful form of verbal learning that involves propositions hence called verbal information learning. Verbal association is known as type 4. It is a sub variety of chaining that occurs when stimuli and responses in the chains consist of words or syllables (Gage and Berliner, 1984). Learning consonants, vowels, diphthongs and triphones in shorthand, equivalent of A, B, C, D ...Z (alphabets) in English Language or vice versa is an example of verbal association learning.

Discrimination Learning: This involves the ability to distinguish among a set of stimulus in such a manner as to make the response appropriate to each member of the set (Gage and Berliner, 1984). It is often concerned with distinctive features of objects, for example, when a student learns to make distinctive response to each shorthand outline. Discrimination learning which is also known as type 5 was described by Bigge and Hunt (1980) as the process within which the individual that is involved learns to make a number of different identifying responses to as many different stimuli that, to some degree, may resemble one another in physical appearance. Discrimination learning requires stimulus-Response chain and verbal Association learning as prerequisites.

Concept Learning: This is also known as type 6. It requires Discrimination Learning as a prerequisite and involves the ability to make a common response to a class of stimuli that may differ from each other widely in physical appearance. Consonants and vowels in shorthand are for example, classified into various categories. Consonant letters that are pronounced highly are represented with light strokes while those pronounced heavily are represented with heavy strokes. Also, there are light dot or dash and heavy dot or dash vowels depending on their pronunciation.

Rule Learning: This involves the formation of a chain of two or more concepts in the form of a built-in type of behavior that occurs in response to a class of stimulus situations. It is known as Type 7, which requires concept learning as a prerequisite.

Problem Solving: This is simply known as Type 8. It is a natural extension of Rule Learning and ranked as the highest in hierarchy of learning tasks. According to Bigge and Hunt (1980), in problem solving, the learner discovers a combination of previously learned rules to produce a new capability that he can apply to achieve a solution for a normal problem situation. It involves the use of the “discovery method” as applicable in the teaching of all skilled Business subjects. It would be seen that the most important part of the process of problem solving learning takes place within the learner.

Basic Laws of Learning

Thorndike (1912, 1913) formulated three basic laws, and five principles of learning. The basis of his experimental study of Cats’ behavior in the puzzle box. These are laws of

- a. Effect;
- b. Exercise;
- c. Readiness; and
- d. The principles of learning such as:
 - i. Multiple response;
 - ii. Mental set;
 - iii. Partial Activity;
 - iv. Analogy or Assimilation; and
 - v. Associative shifting

The Law of Effect:

The law of effect maintains that when a modifiable connection between a stimulus and a response (S-R) has been made, it is strengthened if it results in satisfaction (is reinforced) and weakens if it leads to annoyance. However, annoyance aids learning because the learner will try something else.

Classroom Implications of the law of Effect include:

- a) The classroom experience should be satisfactory and pleasant. The teacher must be a person who enjoys his work and his pupils;
- b) Learning experiences and other activities must be meaningful and understandable in terms of the personal life of the learner.
- c) School experiences and activities must be arranged in such a way that learners may have some degree of confidence and success in their work;
- d) School activities should be organized in an increasing difficulty order so that the students may progress without any failure;
- e) Materials should be provided in varied ways so that novelty may be maintained;
- f) Guidance, praise and encouragement that bring him the satisfaction of knowing that he is on the right path, should be properly used.

The Law of Exercise:

This law has two aspects:

- i) Law of use; and
- ii) Law of Disuse.

The Law of Use states that other things being equal, the more frequently a modifiable connection between a situation and a response is made, the stronger that connection will be. The Law of Disuse asserts that other things being equal, when a modifiable, and a response is not made over a period of time, the strength of that connection is weakened.

Classroom Implications of the Law of Exercise include:

More and more opportunities should be given to the students to use and repeat the knowledge they acquire in the class;

- a) To maintain the connections for longer period, review of the learner material is necessary. The review provides opportunity for repetition (exercise) and places knowledge in new settings;
- b) Examinations is a way of exercise;
- c) Oral quizzes can serve to diagnose weaknesses in teaching procedures and give students opportunity to display their knowledge;
- d) Provided understanding accompanies repetition, the Law of Exercise justifies the use of models and drills in various forms – multiplication tables, alphabets and meaning of words;
- e) Discussion, pupil contribution and conversational methods are useful exercise;
- f) Emphasize student reports, individual research, group projects and class participation – tutorials, and
- g) The emphasis on memorization of facts has given ways to the use, cross-use and interpretation of those facts.

The Law of Readiness:

The law of readiness asserts that when a modifiable connection is ready to act, to do so is satisfying but when it is not ready, to do so is unsatisfying. Readiness is a relatively permanent preparedness of the individual in terms of maturation and experience. It is depended upon environment, maturation, experience, motivation and ability factors.

Classroom Implications of the Law of Readiness include:

- a) Teachers must wait until the learner has reached a stage of research and development at which instruction will probably be effective and before which instruction will be relatively fruitless. For example, reading readiness includes such factors as a mental age 6 – 5 years, adequate sensory perception, attention and emotional control commensurate with age, desire to read, and appropriate experiences. This is not passive waiting;
- b) Preparatory experiences that will facilitate growth of readiness can be provided in primary classes;
- c) Aptitude test in various subjects may be given to determine the thoroughness and readiness of learners; and
- d) Teachers must either wait, readiness, accept the present level of readiness and be satisfied with a slower learning rate or provide experiences that will enhance readiness.

Other Principles of Learning:

Five (5) other principles of learning in addition to the three above mentioned primary laws of learning are included in Thorndike (1912, 1913)'s formulation of Stimulus-Response, Reinforcement Theory. They are:

The Principle of Multiple Responses:

This principle, also known as trial-and-error learning or the principle of varied reaction, states that many responses may be tried before a satisfying one is hit-upon. Trial-error learning involves:

- a) Gradual elimination of useless part of an act;
- b) Efficient, coordinated, consolidated action ensues;
- c) Necessity for teachers guidance of learning experiences – pointing out pertinent clues and indicating probable facility of some responses;
- d) A perceive need to motive;
- e) A difficulty (problematic situation) or obstacle;
- f) Random, experimental, sometimes almost aimless attempts to achieve the goal;
- g) A successful trial; and
- h) Finally, the coordination of selected activities into large unified pattern of behavior.

The Principle of Mental Set:

This refers to the more or less temporary attitudes, attention, interest and feelings of the learner. Mental set is the anticipatory adjustment that causes the learner to seek the learning goal. It refers to the predisposition to act in a given way. It should not be confused with the more or less permanent disposition of preparedness – readiness.

Positive mental set is essential to the emotional atmosphere of the classroom. The classroom should be congenial; prepare students' in the advance for the lesson, materials must have meaning; enumerate objectives at the beginning of each lesson and at the end. Make students feel that they have control over the subsequent material; assist student form positive attitude toward the subject; the class and the school; warm up drills and attention striker; activity must be thought out in advance, temporary disappointments that an individual suffers have a negative effect upon the mental set for learning.

Principle of Partial Activity:

The principle states that a response is made only to parts and aspects of a situation, thus to its totality. In any given situation, certain parts may be prominent (figure) in determining a response.

This is an economical factor in learning because it means that appropriate responses can be made without exact duplication of an entire situation. Words are perhaps the most widespread means by which part of a situation serves to recall a larger total.

Principles of Analogy or Assimilation:

This principle means that when an individual is exposed to a new situation for which he has no natural or learned response, his first response will resemble an earlier or habitual response assistance to a similar situation.

Classroom Implication of this principle includes:

- a) The teacher must point out similarities between the new and the old, the importance of learning from the known to the unknown and the usefulness of bringing textbook abstractions to life situations by relating them to the experiences of the learners;
- b) The teacher must provide identity between historical events and present day events; and
- c) The principle of analogy gives psychological explanation for the unit approach in teaching the basic purpose of which to draw related knowledge from various fields.

Principle of Associative Shifting:

Actually, this is a formal statement of the phenomenon of conditioning. It means that any response of which a learner is capable may be attached to any stimulation to which he is sensitive.

The Classroom Implication among others, include:

- a) Pleasurable after effects;
- b) Consistency in the programme;
- c) Recognition of the necessity for readiness, guided activity;
- d) Attention to temporary mental set;
- e) Knowledge of the most compelling (and competing) aspects of the situation;
- f) Respect for objective view point, systematic methods of problem solving, concern for others and effective work habits should be developed in students; and
- g) Indication of similarities.

Primary:

Primary means the better recall of material learnt at the beginning of a lesson or list. This principle states that first impressions are favorably placed for retention and recall.

Regency:

The principle of regency means that first impression or recently formed associations have an advantage for recall.

Vividness

The principles of vividness states that the livelier an experience is imported, the better it is learned, retained and recalled.

Summary and Conclusion

Learning tasks must be congruent with the readiness level of the learner. Thus, a good teacher will defer some teaching-learning activities until when the students are cognitively mature to handle such tasks. The "how "question in teaching: Teaching is an art which requires some specific strategies. These strategies vary from one teacher to the other and from one teaching situation to the other.

Different teaching methods are available to the training Of professional teacher. These methods includes; discovery method, problem solving methods, lecture method, Programmes for Learning in Accordance with Needs (PLAN), Individually Prescribed Instruction (IPI), Personalized System of Instruction (PSI), contract method, bloom, Engelhart and Krathwehl

(1979) Mastery Learning Strategy (BMLS), Discussion Group Project Method etc. A good teacher should be able to apply these methods or techniques for effective teaching at different situations.

The “Why” question in teaching: A good teacher must be able to state why he/she has recommended a student for promotion or counseling. In other words, a professional teacher must be able to justify all his actions in the classroom. It is not enough for one to label a student an under achiever without adequate, valid and reliable data to justify ones observations. The “Who” question in teaching: A teacher’s first responsibility in a class is to understand the students in the class. The teacher should know all members of his/her class in terms of age, sex, social and economic backgrounds, ability and previous knowledge acquired.

This knowledge will build good teacher-student relationship and personal attention could be given to the students by the teacher based on their personal and individual needs. The fact that a student is well known by a teacher reduces destruction, absenteeism, unseriousness and all other forms of vices in the presence of the teacher. This will bring about classroom peace, trust, honesty and decency which are fruitages of social capital. (Ubulom 1999). The present paper is on the concept, types and characteristics of learning: classroom implications of the law of readiness.

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