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Part one

Introduction

Meaning of Educational Psychology

In order to develop a clear understanding the term educational psychology, it is necessary to understand the meaning of psychology and education separately. Educational psychology is a compound/hybrid word, which consists of two words.

Meaning of Education

Education can be roughly understood as a purposeful process by which man transmits his/her knowledge, experience, and new finding, values , attitudes, etc accumulated over the years in his/her struggle for survival and development and development through generations.

Education is an activity which goes on in the society. It attempts to develop the personality of an individual and then prepares him/ her for membership in a society. Man without education would still be living just like an animal. It is the modification of behavior of an individual for healthy social adjustment in the society.

Psychology is the science of behavior

Meaning of Educational Psychology

Psychology is the science of behavior. Education is the modification of behavior of an individual. To study behavior, education takes the help of psychology and then tries to modify it. Thus, psychology helps education to study human behavior in a socially approved way.

Educational psychology is one of the many branches of psychology dealing mainly with the problems, processes and products of the education. It is an attempt to apply the knowledge of psychology in the field of education. It may be defined as that branch of psychology which studies the behavior of the learner, his/her educational needs and his environment. Various psychologists and scholars have defined educational psychology.

Let us analyze a few important definitions.

1. Educational psychology describes and explains the learning experiences of an individual from birth through old age (Crow and Crow).
2. Educational psychology is the branch of psychology which deals with teaching and learning (Charles E. Skinner)
3. Educational psychology is the study of the psychological aspect of educational situations (Trow).
4. Educational psychology is the systematic study of emotional growth and development of a child (Stephen).
5. Educational Psychology is the science of education(Peel)
6. Educational psychology is the study of those facts and principles of psychology which help to explain and improve the process of education (Walter and Kolensink).
7. Educational psychology is a subject to be studied in an area or field of knowledge , a set of applications of laws and principles from a wide field of knowledge to a social process and set of laws and techniques , and field of research(Anderson).
8. Educational psychology is the science which explains the changes that take place in the individuals as they pass through the various stages of development (Judd).
9. Educational psychology is the applications of psychology and psychological methods to the study of development, learning, motivation, instruction, assessment, and related issues that influences the interaction of teaching and learning.
10. It is one field of specialization, which employs the science of behavior to make the teaching learning process faithful.

Educational Psychology as a Science of Education

With the help of minimum input in terms of energy and time science helps us to drive maximum output in terms of the quality and quantity. The same educational psychology surely does. It helps in realizing the objectives of education in a better way. Educational psychology helps in planning the process of teaching and learning by adopting the scientific principle of minimum input for maximum output. As a result with the help of educational psychology a teacher can teach effectively but making minimum use of his energy in terms of time and labour; similarly the students can learn effectively by spending less of their time and effort.

Educational psychology produces the result of education. It equips the teacher by supplying the essential scientific skills, technological expertise and advice in molding and shaping the behavior of his/her students for the desirable development of their personality, in the same way as the persons connected with the actual construction of a bridge are helped by an engineer or mechanic equipped with the essential civil, mechanical or electrical technology. Educational psychology thus plays the same role as other sciences and technology in helping the teachers and other persons connected with the building of future of the youngsters in their charge. Thus it is justified that educational psychology is the science and technology of education.

1.2. Scope of Educational Psychology

Educational psychology is a science of education which mainly deals with the problems of teaching and learning and helps the teacher in his task of modifying the learner's behavior and bringing about all-round development of his personality. Therefore, while in psychology the scope of study and the field of operation are extended to cover the behavior of all living organisms related to all their life activities, while in educational psychology the scope of such behavioral study has to be limited within the confines of the teaching-learning process, i.e. studying the behavior of the learners in relation to their educational environment, specifically for the satisfaction of their educational needs and the all-round development of their personality.

A famous psychologist Lindgren points out that educational psychology is concerned with understanding the **learner, the learning process, and the learning situation.** The scope of educational psychology may be discussed under the following headings.

1. The learner

The learner applies to students who individually or collectively participate in educational programs. Learners differ from one another in a number of ways. Hence while preparing the curriculum of the learners, individual differences that exists among the learners must be taken in to account.

2. The learning process

Learning is the process by which learners acquire and retain attitudes, knowledge, understanding, skills and capabilities that cannot be attributed to inherited behavioral pattern or physical growth. Each type of learning goes by different name:

- A. **Affective learning** has to do with feelings and values that influences learners' attitudes and personalities.
- B. **Cognitive learning** is achieved by mental processes such as reasoning, remembering, and recall. It helps in problem solving and develops new ideas and evaluation.
- C. **Psychomotor learning** has to do with the development of skills which require efficient coordination between our body and muscles as when we read or write or carrying out physical skills such as balancing , skipping or juggling

3. The learning situation

The learning situation covers all life experiences that modify our behavior. From academic point of view learning situation refers to the classroom setting, which is composed of pupils, a teacher and room. All have unique characteristics.

Specifically, thus, the subject matter of educational psychology must be centered on the process of teaching and learning for enabling the teacher and learners to do their jobs as satisfactorily as possible. The following questions should be answered by an educational psychologist today:

1. How are children's abilities, knowledge, and effective characteristics related to objectives of education?
2. How does knowledge of learning process and theories contribute to more efficient learning and teaching?
3. How do characteristics of the learner effect his readiness to learn and efficiency of learning?
4. How do characteristics of the teacher affect pupil learning?
5. How do the behaviors of the teacher and the student affect efficiency of learning?

1.3.Goals of educational psychology

Educational psychology has two basic aims:

- A) Checking/testing the relevance/applicability of psychological theories, principles to instruction.

B) Solving different problems which are related to instruction by applying the science of behavior, psychology.

What makes a good teacher?

Three key ingredients of effective teaching are **professional knowledge and professional skills**

A. Professional Knowledge

According to research, effective teachers use the following types of knowledge

Content Knowledge. First, teachers must know the subject matter that they intend to teach, also known as content knowledge. Effective teachers know their subject matter extremely well (Borko & Putnam, 1996; Windschitl, 2002). Some studies suggest that strong subject matter knowledge, typically measured as having a major that is relevant to the field to be taught, is associated with teacher effectiveness and having a master's degree in the field contributes more to teacher effectiveness than having a master's degree in a different field (Goldhaber & Brewer, 1998; 2000; Wenglinsky, 2002). In most institutions, teachers learn content knowledge through courses in the disciplinary fields (e.g., math, science).

Pedagogical Knowledge.

Although necessary, well-developed content knowledge is not sufficient to make someone a good teacher. Otherwise, all experts in any domain would be good teachers by definition, and that is not the case. In fact, **many experts lack the ability to verbalize the knowledge and skills that they have developed over time** (Bereiter & Scardamalia, 1993). Thus, in addition to content knowledge, **it is necessary to have general pedagogical knowledge, an understanding of principles of learning, development, classroom management, motivation, and assessment that can be used across content domains** (Shulman, 1987).

General pedagogical knowledge is typically learned in educational psychology courses such as this one. For instance, you will soon learn that effective teachers are aware that students make rather than take new information.

In addition to having general pedagogic knowledge, which is knowledge that can be applied to any subject, teachers also need to **develop pedagogical content knowledge, teaching strategies that are specific to the content to be taught**. For example, a chemistry teacher demonstrates

pedagogical content knowledge when using visual representations such as molecular diagrams or models as part of her pedagogy. Effective teachers have a large repertoire of strategies for teaching a variety of subjects

Knowledge about Learners.

Effective teaching requires significant knowledge about the numerous ways in which learners think and behave depending on their unique characteristics. Teachers should know how to plan instruction that is developmentally appropriate for students of different ages (Darling-Hammond & Bransford, 2005; Horowitz et al., 2005), and they should be sensitive to the needs of students from diverse backgrounds (Bennett, 2007; Diaz, Pelletier, & Provenzo, 2006; Okagaki, 2006). The next three chapters will help you gain valuable knowledge about learners. Specifically, they will describe the role that a student's developmental age, gender, language and cultural background, and abilities play in learning; they will also provide you with useful strategies to help all students learn effectively.

Knowledge about Curriculum.

Even when teachers are provided with instructional materials such as textbooks for their classrooms, they need to know what to teach based on the guidelines developed by national, state, and local standards. Knowledge about curriculum, including standards and benchmarks for each content area, will allow the design and sequencing of tasks based on students' learning needs, and how to assess students' learning.

B. Professional Skills

Whereas professional knowledge is all the information that you have learned about teaching and learning, professional skill is the ability to use that knowledge effectively and readily in the classroom. Remember that a teacher might have read many books and journal articles about classroom management (knowledge), but if he is very disorganized or hasn't developed effective classroom routines (skills), then he won't be a very effective teacher for his students. Effective teachers demonstrate skills in several areas including planning, communication, motivation, classroom management, assessment, and technology. Let's examine each of these skills.

Planning Skills

Teachers need to set a variety of learning goals and organize plans for reaching those goals (Blumenfeld, Marx, & Harris, 2006). As teachers plan instruction, they consider when and how instruction should occur, what activities students should do, and the types of assessments that can be used to evaluate students' learning. Planning requires the combination of all professional knowledge types discussed in the prior section, including good knowledge of curriculum, subject matter, content pedagogical knowledge, general pedagogical knowledge, and knowledge of learners.

Communication Skills.

Teachers need to be good verbal and nonverbal communicators. Effective teachers speak clearly, actively listen to students and parents, interpret students' body language, and constructively resolve conflicts in the classroom. They also have assertive rather than passive or hostile communication styles and work to improve students' communication skills (Powell & Caseau, 2004).

Motivation Skills

Effective teachers give students the opportunity to think about their personal interests and goals and use strategies to help them become self-motivated and responsible for their own learning (Anderman & Wolters, 2006). In addition, teachers with good motivation skills set high standards for all students yet adjust the level of challenge and support to different ability levels to ensure that every child becomes motivated to succeed (Wigfield, Byrnes, & Eccles, 2006). For example, a third-grade reading teacher might expect a gifted student to understand stories at the fifth-grade level, an average student to understand stories at the third-grade level, and a student with a learning disability in reading to understand stories at the second-grade level. To promote motivation to learn, she should assign each student a story that is challenging for their respective comprehension level rather than assign a story that is at the average grade level. Assignments that are too hard or too easy can be frustrating and hurt students' motivation. Teachers can also promote motivation in the classroom by modeling their own excitement to learn and the value of learning.

Classroom Management Skills

Consider the following scenario: A teacher is trying to start a science lesson. She raises her voice for attention and gestures frantically as students leave their seats to sharpen pencils,

retrieve their science journals, or ask friends for help. One student asks in frustration, “What are we supposed to be doing?”

The time the teacher has allotted for science is half over before the lesson even begins!

Teachers need to manage their classrooms to create a successful, orderly environment that is conducive to learning. To this end, effective teachers use a repertoire of strategies for developing classroom rules and procedures, monitoring and preventing misbehavior, and intervening when discipline problems arise (Evertson, Emmer, & Worsham, 2006).

Assessment Skills

Effective teachers regularly assess the knowledge and skills of their students with a variety of formal and informal methods (McMillan, 2007). Formal assessments include students’ presentations, quizzes, project assignments, and state-mandated tests. Teachers also use informal assessments, such as portfolios of student work, student journals, and examination of students’ questions, comments, and behaviors during classroom and group activities. This set of skills includes the planning, development, administration, evaluation, and revision of classroom assessments and the administration and evaluation of commercially made tests.

1.5. Relevance of Educational psychology

It contributes a lot to the area of teaching and learning as well as a behavioral science applied in the class-room situation. Its main contribution lies in the understanding of the pupils as well as developing systematic programs, according to the potentials and needs of the pupils and the community.

Psychology of education helps the teacher to probe into and develop skills for effective functioning.

The teacher has to function as an evaluator for measuring the outcome of his teaching. Thus, the various roles and functions of a teacher are facilitated by his knowledge and application of educational psychology. In short, educational psychology provides a frame-work for looking at the learner, the learning process and the learning situation together.

The knowledge of educational psychology helps a teacher to be more aware of class room behavior, to interpret the significance of such behavior and to plan purposeful strategy for

bringing the desired changes in the pupil's behavior. Successful teachers hold realistic attitude towards students. Psychology of education orients a teacher to form the strategies as well as provides the skill to reach them.

Part two

Human development and implications to Education

2.1. Piaget's theory of Cognitive Development and educational implications

Cognitive development is much more than the addition of new facts and ideas to an existing store of information. According to Piaget, our thinking processes change from birth to maturity because we constantly strive to make sense of the world. How do we do this? Piaget identified four factors-biological maturation, activity, social experiences, and equilibration--that interact to influence changes in thinking

As we develop, we are also interacting with the people around us. According to Piaget, our cognitive development is influenced by sociocultural or learning to others. Without social transmission we would need to reinvent as the knowledge already offered by our culture. The amount people can learn from social transmission varies according to their stage of cognitive development maturation, activity, and social transmission all work together to influence cognitive development.

2.1.1. Implications of Piaget's Theory for Teachers

Piaget did not make specific educational recommendations. He was more interested in understanding children's thinking. He did express some general ideas about education, however, He believed that the main goal of education should be to help children learn how to learn, and that education should "form not furnish" the minds of students (Piaget). Even though Piaget did not use programs of educational based discussions if we understand children's thinking, we will be better able to match teaching methods to children's abilities.

Understanding and Building on Students' Thinking

The students in class will vary greatly in both their level of cognitive development and their academic knowledge. As a teacher, how can you determine whether students are having trouble

because they lack the necessary thinking abilities or because they simply have not learned the basic facts? Case (1985b) suggests you observe your students carefully as they try to solve the problems you have presented. What kind of logic do they use? Do they focus on only one aspect of the situation? Are they fooled by appearances? They suggest solutions systematically or by guessing and forgetting what they have already tried? Ask your students how they tried to solve the problem. Listen to their strategies. That kind of thinking is behind repeated mistakes or problems?

The students are the best sources of information about their own thinking abilities. An important implication of Piaget's theory for teaching is what Hunt years ago (1961) called "the problem of the match." Students must be neither bored by work that is too simple nor left behind by teaching they cannot understand. According to Hunt, disequilibrium must be kept "just right" to encourage growth. Setting up situations that lead to errors can help create an appropriate level of disequilibrium. When students experience some conflict between what they think should happen (and what actually happens (it floats!)), they may rethink the situation, and new knowledge may develop.

It is worth pointing out, too, that many materials and lessons can be understood at several levels and can be "just right" for a range of cognitive abilities. It is also possible for students to be introduced to a topic together, then work individually on follow-up activities matched to their level.

Activity and Constructing Knowledge

Piaget's fundamental insight was that individuals construct their own understanding; learning is a constructive process. At every level of cognitive development you will also want to see that students are actively engaged in the learning process. To know an object is to act on it. To know is to modify, to transform the object and to understand the process of this transformation, and as a consequence to understand the way the object is constructed. This active experience even at the earliest school levels, should not be limited to the physical manipulation of objects. It should also include mental manipulation of ideas that arise out of class projects or experiments). For example, after a social studies lesson on different jobs, a primary-grade teacher might show the

students a picture of a woman and ask, "What could this person be?" After answers such as "teacher," "doctor," "secretary," "lawyer," "saleswoman," and so on, the teacher could suggest, "How about a daughter?" Answers such as "sister," "mother," "aunt," and "granddaughter" may follow. This should help the children switch dimensions in their classification and center on another aspect of the situation.

All students need to interact with teachers and peers in order to test their thinking, to be challenged, to receive feedback, and to watch how others work out problems. As a general rule, students should act, manipulate, observe, and then talk and/or write to the teacher and each other.

Educational implications at each stage of cognitive development

1. Preoperational

As you have just read, young children think on a different plane than older children. Following are some effective strategies for advancing young children's thinking.

1. *Allow children to experiment freely with materials.* For example, give children various sizes of cups and a sandbox or water table. As they pour the sand or water back and forth between the cups, they will begin to understand the concepts of reversibility and conservation. If children are allowed to "play" with materials at a science table, they are likely to begin classifying objects.
2. *Ask children to make comparisons.* These might involve such concepts as bigger, taller, wider, heavier, and longer.
3. *Give children experience in ordering operations.* For example, have children line up in rows from tall to short and vice versa. Bring in various examples of animal and plant life cycles, such as several photographs of butterfly development or the developing
4. *Have children draw scenes with perspective.* Encourage them to make the objects in their drawings appear to be at the same location as in the scene they are viewing. For example, if they see a horse at the end of a field, they should place the horse in the same location in the drawing.
5. *Construct an inclined plane or a hill.* Let children roll marbles of various sizes down the plane. Ask them to compare how quickly the different-size marbles reach the bottom. This should help them understand the concept of speed.
6. *Ask children to justify their answers when they draw conclusions.* For example, when they say that pouring a liquid from a short, wide container into a tall, thin container makes the liquid

change in volume, ask, “Why do you think so?” or “How could you prove this to one of your friends?” This will help them to think more logically

Concrete operational

As you have just learned, for most of elementary school, children think at a concrete operational level, which is a different level than young children and adolescents. Following are some effective strategies for advancing children’s thinking at the concrete operational level.

1. *Encourage students to discover concepts and principles.*

Ask relevant questions about what is being studied to help them focus on some aspect of their learning. Refrain from telling students the answers to their questions outright. Try to get them to reach the answers through their own thinking.

2. *Involve children in operational tasks.* These include adding, subtracting, multiplying, dividing, ordering, seriating, and reversing. Make the reversibility of these operations explicit for the children. For instance, show them that subtracting is the reverse of adding. Use concrete materials (i.e. manipulatives) for these tasks, possibly introducing math symbols later.

3. *Plan activities in which students practice the concept of ascending and descending classification hierarchies.* Have students list the following in order of size (such as largest to smallest): Addis Ababa, Bahir Dar, Godar, Hawasa, Adama .

4. *Include activities that require conservation of area, weight, and displaced volume.* Realize that there is considerable variation in children’s attainment of conservation across different domains.

5. *Continue to ask students to justify their answers when they solve problems.* Help them to check the validity and accuracy of their conclusions.

Formal operational

1. *Realize that most adolescents are not full-fledged formal operational thinkers.* Thus, many of the teaching strategies discussed earlier regarding the education of concrete operational thinkers still apply to many young adolescents.

2. *Propose a problem and invite students to form hypotheses about how to solve it.* For example, a teacher might say, “Imagine that a girl has no friends. What should she do?”

3. *Present a problem and suggest several ways it might be approached.* Then ask questions that stimulate students to evaluate the approaches. For example, describe several ways to investigate a robbery, and ask students to evaluate which way is best and why.

4. *Demonstrate how to conduct experiments that require the separation and control of variables.* Later ask students to conduct their own experiments. These might involve science concepts or simple student-generated research questions, such as “which chewing gum retains its flavor the longest?”

5. *Encourage students to create hierarchical outlines when you ask them to write papers.* Make sure they understand how to organize their writing in terms of general and specific points. The abstractness of formal operational thinking also means that teachers with students at this level can encourage them to use metaphors.

So far you learned about applying Piaget’s theory to teaching children at different stages of cognitive development. Following are five general strategies based on Piaget’s theory for educating children.

1. *Take a constructivist approach.* In a constructivist approach, Piaget emphasized that children learn best when they are active and seek solutions for themselves. Piaget opposed teaching methods that treat children as passive receptacles. The educational implication of Piaget’s view is that in all subjects students learn best by making discoveries, reflecting on them, and discussing them, rather than blindly imitating the teacher or doing things by rote.

2. *Facilitate rather than direct learning.* Effective teachers design situations that allow students to learn by doing. These situations promote students’ thinking and discovery. Teachers listen, watch, and question students to help them gain better understanding. They ask relevant questions to stimulate students’ thinking and ask them to explain their answers. create imaginative classroom situations to facilitate students’ learning.

3. *Consider the child’s knowledge and level of thinking.*

Students do not come to class with empty heads. They have many ideas about the physical and natural world including concepts of space, time, quantity, and causality. These ideas differ from the ideas of adults. Teachers need to interpret what a student is saying and respond with discourse close to the student’s level. Asking the children to do something for which they are not ready will not promote cognitive development. It will merely frustrate the children.

4. *Promote the student's intellectual health.* When Piaget came to lecture in the United States, he was asked, "What can I do to get my child to a higher cognitive stage sooner?" He was asked this question so often in the United States compared with other countries that he called it the American question. For Piaget, children's learning should occur naturally. Children should not be pushed and pressured into achieving too much too early in their development, before they are maturationally ready.

5. *Turn the classroom into a setting of exploration and discovery.*

What do actual classrooms look like when the teachers adopt Piaget's views? Several first- and second grade math classrooms provide some good examples (Kamii, 1985, 1989). The teachers emphasize students' own exploration and discovery. The classrooms are less structured than what we think of as a typical classroom. Workbooks and predetermined assignments are not used. Rather, the teachers observe the students' interests and natural participation in activities to determine what the course of learning will be. For example, a math lesson might be constructed around counting the day's lunch money or dividing supplies among students. Often games are prominently used in the classroom to stimulate mathematical thinking.-

2.2. Vygotsky's Sociocultural Perspective and Educational implications

One of his key ideas was that our specific mental structures processes can be traced to our interactions with others. These social interactions are more than simple inducers on cognitive development.

The Social Sources of Individual Thinking

Vygotsky assumed that "every function in a child cultural development appears twice: first, on the social level and later on the individual level; first between people (interpsychological) and then inside the child intrapsychological. In other words, higher mental processes appear first between people as they are constructed during shared activities. Then the processes are internalized by the child and become part of that child's cognitive development. For example, children first use language in activities with others, to regulate the behavior of the others. Later, however, the child can regulate her own behavior using private speech ("don't spill"), social interaction was more than influence, it was the origin of higher mental processes such as problem solving. The social source is other students and the type of thinking Involved is reasoning.

Richard Anderson and his colleagues (2001) studied how 4th graders in small-group classroom discussions appropriate (take for themselves and use) argument strategies that occur

Anderson's research identified 13 forms of talk and argument that helped to manage the discussion, get everyone to participate, present and defend positions, and handle confusion. The researchers found that the use of these different forms of talking and thinking a useful argument was employed by one student, it spread to other students and the argument strategies form appeared more and more in the discussion. Open discussions-students asking and answering each other's questions were better than teacher-dominated discussion for the development of these argument forms. Over time, these ways at presenting, attacking, and defending positions could be internalized -mental reasoning and decision making for the individual students.

Both Piaget and Vygotsky emphasized the importance of social interactions in cognitive development, but Piaget saw a different role for interaction. He believed that interaction encouraged development by creating disequilibrium-cognitive control -that motivated change. Thus, Piaget believed that the most helpful interactions were those between peers because peers are on an equal basis and can challenge each other's thinking. Vygotsky (1978, 1986, 1987, 1993), on the other hand, suggested that children's cognitive development is fostered by interactions with people who are more capable or advanced in their thinking-people such as parents and teachers. Of course, as we have seen above, students can learn from both adults and peers.

Cultural Tools and Cognitive Development

Vygotsky believed that cultural tools, including real tools (such as printing presses, rulers, abacus. today, we would add computers, the Internet and symbolic tools (such a numbers and mathematical systems, Braille and sign language, maps, work of art, signs and coded and language) play very important roles in cognitive development. For example, as long as the culture provides only Roman numerals for representing quantity, certain ways of thinking mathematically-from long division to L calculus-are difficult or impossible. But if a number system has a zero, fractions, positive and negative values, and an infinite number of numbers, then much more is possible. The number system is a cultural tool that supports thinking, learning, and cognitive development. This symbol system is passed from adult to child through formal and informal interaction and teachings.

Vygotsky emphasized the tools that the culture provides to support thinking. He believed that all higher-order mental processes such as reasoning and problem solving are immediately (accomplished through and with the help of) psychological tools, such as language, sign, and symbols. Adults teach these tools to children during day to-day activities and the children internalize them. Then the psychological tools can help students advance their own development (Karpov & Haywood, 1998).

The process is something like this: As children engage in activities with adults or more capable peers, they exchange ideas and ways of thinking about or representing concept -drawing maps, for example, as a way to represent spaces and places. These co-created ideas are internalized by children. Thus, children's knowledge, ideas, attitudes, and values develop through appropriating or "taking for themselves" the ways of acting and thinking provided by their culture and by the more capable members of their group (Kowlin & Pres. eisen, 1995)

The Role of Language and Private Speech

Language is critical for cognitive development. For expressing ideas and asking questions, the categories and concepts for thinking and thinking between the past and the future .If we study language across culture, we see different language tools.

Comparing Vygotsky's and Piaget's Views

If you have spent much time around young children, you know that they often talk to themselves as they play. J.Piaget called children's self-directed talk "egocentric speech." He assumed that this egocentric speech is another indication that young children can't see the world through the eyes of others. They talk about what matter to them, without taking into account the needs or interests of their listeners. As they mature, and especially as they have disagreements with peers, Piaget believed, children develop socialized speech. They learn to listen and exchange ideas. Vygotsky had very different ideas about young children's private speech. Rather than being a sign of cognitive immaturity, Vygotsky suggested that these private speech plays an important

role in cognitive development by moving children toward self regulation, the ability to plan, monitor, and guide one's own thinking and problem solving.

Vygotsky believed that self-regulation developed in a series of stages. First the child's behavior is regulated by other, usually parents, using language and other signs such as gestures. For example the parent says, "No!" when the child reaches toward a candle flame. Next the child learns to regulate the behavior of others using the same language tools. The child says, "No!" to another child who is trying to take away a toy, often even imitating the parent's voice tone, Along with teaming to use external speech to regulate others. The child begins to use private speech to regulate her own behavior, saying "no" quietly to herself as she is tempted to touch the flame. Finally the child learns to regulate her own behavior by using silent inner speech. As children using private speech are communicating-they are communicating with themselves to guide their behavior and thinking. In any preschool room you might hear 4- or 5-year-olds saying, "No, it won't fit. Try it here. Turn. Turn. May be this one!" while they do puzzles. As these children mature, their self-directed speech goes underground, changing from spoken to whispered speech and then to silent lip movements. Finally, the children just "think" the guiding words.

Vygotsky identified this transition from audible private speech to silent inner speech as a fundamental process in cognitive development. Through this process the child is using language to accomplish important cognitive activities such as directing attention, solving problems, planning, forming concepts, and gaining self-control. Research supports Vygotsky's ideas. Children tend to use more private speech when they are confused, having difficulties, or making mistakes. Inner speech not only helps us solve problems but also allows us to regulate our behavior. Have you ever thought to yourself something like, "Let's see, the first step is ." or "Where did use my glasses last?" or "If I work to the end of this page, then I can.' . ." ? You were using inner speech to remind, cue, encourage, or guide yourself. In a really tough situation, such as taking all important, you might even find that you return to muttering our loud.

The Role of Adults and Peers

Vygotsky believed that cognitive development occurs through the child's conversations and interactions with more capable members of the culture—adults or more old peers. The child is not alone in the world "discovering" the cognitive operations of conservation or classification. This discovery is discussed or mediated by family members, teachers and peers. Most of this is communicated through language, at least in Western cultures. In some cultures, observing a skilled performance, not talking about it, guide the child's learning. Jerome Bruner called this adult assistance scaffolding (Wood, Bruner, & Rms, 1976).

2.2.1. Implications of Vygotsky's Theory for Teachers

The cultural tools can be passed from one individual to another: Imitative learning (where one person tries to imitate the other), instructed learning (where students internalize the instructions of the teacher and use these instructions to self-regulate), and collaborative learning (where a group of peers strives to understand each other and learning occurs in the process. Most concerned with instructed learning through direct teaching or through structuring experiences that support another's learning, but his theory supports the other arms of cultural learning as well. Thus, Vygotsky's ideas are relevant for educators who teach directly and also create learning environments. One major aspect of learning in either situation is assisted learning.

Assisted Learning

Vygotsky's theory suggests that teachers need to do more than just arrange the environment so that students can discover on their own. Children cannot and should not be expected to reinvent or rediscover knowledge already available in their cultures. Rather, they should be guided and assisted in their learning—so Vygotsky saw teachers, parents, and other adults as central to the child's learning and development (Karpov & Haywood, 1998).

Assisted learning, or guided participation in the classroom, requires scaffolding—giving information, prompts, reminders, and encouragement at the right time and in the right amounts, and then gradually allowing the students to do more and more on their own, as Tamara did with her class. Teachers can assist learning by adapting materials or problems to students' current levels; demonstrating skills or thought processes; walking students through the steps of a listed problem; doing part of the problem (for example, in algebra, the students set up the equation and

the teacher does the calculations or vice versa); giving detailed feedback and allowing revisions; or asking questions that refolds students' attention

The Zone of Proximal Development

According to Vygotsky, at any given point in development" there are certain problems that a child is on the verge of being able to solve. The child just needs some structure, clues, reminders, help with remembering details or steps, encouragement to keep trying, and so on. Some problems, of course, are beyond the child's capabilities, even if every step is explained clearly. The zone of proximal development is the area where the child cannot solve a problem alone, but can be successful under adult guidance or in collaboration with a more advanced peer . This is the area where instruction can succeed, because real learning is possible

Strategies for Applying Vygotsky's Theory to Children's Education

Vygotsky's theory has been embraced by many teachers and has been successfully applied to education. Here are some ways Vygotsky's theory can be incorporated in classrooms:

1. *Assess the child's ZPD.* Like Piaget, Vygotsky did not think that formal, standardized tests are the best way to assess children's learning. Rather, Vygotsky argued that assessment should focus on determining the child's ZPD. The skilled helper presents the child with tasks of varying difficulty to determine the best level at which to begin instruction.

2. *Use the child's ZPD in teaching.*

Teaching should begin toward the zone's upper limit, so that the child can reach the goal with help and move to a higher level of skill and knowledge. Offer just enough assistance. You might ask, "What can I do to help you?" Or simply observe the child's intentions and attempts and provide support when needed. When the child hesitates, offer encouragement. And encourage the child to practice the skill. You may watch and appreciate the child's practice or offer support when the child forgets what to do. In *Through the Eyes of*

Teachers, you can read about John Mahoney's teaching practices that reflect Vygotsky's emphasis on the importance of the ZPD. In contrast to in-class work, homework should be aimed at the zone's lower limit so that the child will be capable of completing it. Keeping instruction in the ZPD is likely to require differentiation as children's zones of proximal development are not uniform. that help students subsequently solve problems on their own. Mahoney also never gives

students the answers to math problems. As one student commented, “He’s going to make you think.” His tests always include a problem that students have not seen but have enough knowledge to figure out the problem’s solution

3. Use more-skilled peers as teachers.

Remember that it is not just adults that are important in helping children learn. Children also benefit from the support and guidance of more-skilled children (Gredler, 2009). For example, pair a child who is just beginning to read with one who is a more advanced reader. It is also desirable to use cross-age tutoring.

4. Monitor and encourage children’s use of private speech.

Be aware of the developmental change from externally talking to oneself when solving a problem during the preschool years to privately talking to oneself in the early elementary school years. In the elementary school years, encourage children to internalize and self-regulate their talk to themselves.

5. Place instruction in a meaningful context.

Educators today are moving away from abstract presentations of material, instead providing students with opportunities to experience learning in real-world settings. For example, instead of just memorizing math formulas, students work on math problems with real-world implications.

6. Transform the classroom with Vygotskian ideas. Tools of the Mind is a curriculum that is grounded in Vygotsky’s (1962) theory with special attention given to cultural tools and developing self regulation, the ZPD, scaffolding, private speech, shared activity, and play as important activity

2.3. BRONFENBRENNER’S ECOLOGICAL THEORY

The ecological theory developed by Urie Bronfenbrenner (1917–2005) primarily focuses on the social contexts in which children live and the people who influence their development.

Five Environmental Systems Bronfenbrenner’s (1995, Bronfenbrenner & Morris, 2006) ecological theory consists of five environmental systems that range from close interpersonal interactions to broad-based influences of culture. The five systems are the microsystem, mesosystem, exosystem, macrosystem, and chronosystem.

Microsystems: individual spends considerable time, such as the student's family, peers, school, and neighborhood. Within these microsystems, the individual has direct interactions with parents, teachers, peers, and others. For Bronfenbrenner, the student is not a passive recipient of experiences but is someone who reciprocally interacts with others and helps to construct the microsystem.

The *mesosystem* involves linkages between microsystems. Examples are the connections between family experiences and school experiences and between family and peers.

The *exosystem* is at work when experiences in another setting (in which the student does not have an active role) influence what students and teachers experience in the immediate context. For example, consider the school and park supervisory boards in a community. They have strong roles in determining the quality of schools, parks, recreation facilities, and libraries, which can help or hinder a child's development.

The *macrosystem* involves the broader culture. *Culture* is a very broad term that includes the roles of ethnicity and socioeconomic factors in children's development. It's the broadest context in which students and teachers live, including the society's values and customs (Shiraev & Levy, 2010). For example, some cultures (such as rural China and Iran) emphasize traditional gender roles.

The *chronosystem* includes the sociohistorical conditions of students' development.

For example, the lives of children today are different in many ways from when their parents and grandparents were children (Schaie, 2010, 2011). Today's children are more likely to be in child care, use computers, and grow up in new kinds of dispersed, deconcentrated cities that are not quite urban, rural, or suburban

2.3.1. Strategies for Educating students Based on Bronfenbrenner's Theory

1. *Think about the child as embedded in a number of environmental systems and influences.* These include schools and teachers, parents and siblings, the community and neighborhood, peers and friends, the media, religion, and culture.

2. *Pay attention to the connection between schools and families.* Build these connections through formal and informal outreach. There are a number of ways to do this, including inviting parents into the classroom for special occasions, such as open houses, asking parents to read with their

children at home, bringing parents into the school as volunteers, speakers, or room parents, and holding parent/child activity nights.

3. *Recognize the importance of the community, socioeconomic status, and culture in the child's development.*

These broader social contexts can have powerful influences on the child's development (

Part three

Individual Differences and implications

Individual difference in psychology examines how people are similar and how they differ in their thinking, feeling and behavior. For example, people can be classified according to intelligence and personality characteristics. People are complex, however, and there are multiple theories and evidence as to what are the prevailing aspects of psychological differences.

Individual differences are a cornerstone subject area in modern psychology. In many ways, it is the "classic" psychology that the general public refers to - it refers the psychology of the person – the psychological differences between people and their similarities. Plato stated more than 2000 years ago: “No two persons are born exactly alike; but each differs from the other in natural endowments, one being suited for one occupation and the other for another.”

Individual difference psychology examines how people are similar and how they differ in their thinking, feeling and behavior. No two people are alike, yet no two people are unlike. So, in the study of individual differences we strive to understand ways in which people are psychologically similar and particularly what psychological characteristics vary between people. In the Western psychology approach to individual differences, it is generally assumed that People vary on a range of psychological attributes

It is possible to measure and study these individual differences individual differences are useful for explaining and predicting behavior and performance. We can classify people psychologically, according to their intelligence and personality characteristics.

3.1 Importance of studying Individual Differences

The study of individual differences is essential because important variation between individuals can be masked by averaging. For example, a researcher is interested in resting metabolic rate in humans. The researcher gathers a sample of men, women, and children, measures their metabolic rate and gets a single average. The researcher then tells the whole population that they should be eating 1,900 calories a day. What's wrong with this study? The researcher has neglected individual differences in activity level, body size, sex, age, and other factors that influence metabolic rate. The average reported based on the results is masking multiple dimensions that should be used to determine daily caloric intake. Therefore, his or her conclusions are misleading if not outright false. This is an extreme example to make a point, but it illustrates the problems that can arise by averaging across groups.

3.2 Determinants of Individual Differences

What it is that is responsible for the differences and variations among human beings?

Educationalists, psychologists and sociologists have tried to study this through their researches. They have in turn concluded that both the hereditary as well as environmental factors jointly responsible for differences and variations among us.

Areas of individual difference

Individual styles of learning and thinking

All of us, including our students, have preferred ways of learning. Teachers often refer to these differences as **learning styles**, though this term may imply that students are more consistent across situations than is really the case. One student may like to make diagrams to help remember a reading assignment, whereas another student may prefer to write a sketchy outline instead. Yet in many cases the students could in principle reverse the strategies and still learn the material: if coaxed (or perhaps required), the diagram-maker could take notes for a change and the note-taker could draw diagrams. Both would still learn, though neither might feel as comfortable as when using the strategies that they prefer. This reality suggests that a balanced, middle-of-the-road approach may be a teacher's best response to students' learning styles. Or put another way, it is good to support students' preferred learning strategies where possible and appropriate, but neither necessary nor desirable to do so all of the time (Loo, 2004; Stahl, 2002). Most of all, it is neither necessary nor possible to classify or label students according to

seemingly fixed learning styles and then allow them to learn only according to those styles. A student may prefer to hear new material rather than see it; he may prefer for you to explain something orally, for example, rather than to see it demonstrated in a video. But he may nonetheless tolerate or sometimes even prefer to see it demonstrated.

In the long run, in fact, he may learn it best by encountering the material in both ways, regardless of his habitual preferences. That said, there is evidence that individuals, including students, do differ in how they habitually think. These differences are more specific than learning styles or preferences, and psychologists sometimes call them **cognitive styles**, meaning typical ways of perceiving and remembering information, and typical ways of solving problems and making decisions

In a style of thinking called **field dependence**, for example, individuals perceive patterns as a whole rather than focus on the parts of the pattern separately. In a complementary tendency, called **field independence**, individuals are more inclined to analyze overall patterns into their parts. Cognitive research from the 1940s to the present has found field dependence/independence differences to be somewhat stable for any given person across situations, though not completely so. Someone who is field dependent (perceives globally or “wholistically”) in one situation, that is, tends to a modest extent to perceive things globally or wholistically in other situations. Field dependence and independence can be important understanding students because the styles affect students’ behaviors and preferences in school and classrooms. Field dependent persons tend to work better in groups, it seems, and to prefer “open-ended” fields of study like literature and history. Field *independent* persons, on the other hand, tend to work better alone and to prefer highly analytic studies like math and science. The differences are only a tendency, however, and there are a lot of students who contradict the trends. As with the broader notion of learning styles, the cognitive styles of field dependence and independence are useful for tailoring instruction to particular students, but their guidance is only approximate. They neither can nor should be used to “lock” students to particular modes of learning or to replace students’ own expressed preferences and choices about curriculum.

Another cognitive style is **impulsivity** as compared to **reflectivity**. As the names imply, an *impulsive* cognitive style is one in which a person reacts quickly, but as a result makes

comparatively more errors. A *reflective* style is the opposite: the person reacts more slowly and therefore makes fewer errors. As you might expect, the reflective style would seem better suited to many academic demands of school. Research has found that this is indeed the case for academic skills that clearly benefit from reflection, such as mathematical problem solving or certain reading tasks (Evans, 2004). Some classroom or school-related skills, however, may actually develop better if a student is relatively impulsive. Being a good partner in a cooperative learning group, for example, may depend partly on responding spontaneously (i.e. just a bit “impulsively”) to others’ suggestions; and being an effective member of an athletic team may depend on *not* taking time to reflect carefully on every move that you or your team mates make.

There are two major ways to use knowledge of students’ cognitive styles (Pritchard, 2005). The first and the more obvious is to build on students’ existing style strengths and preferences. A student who is field independent and reflective, for example, can be encouraged to explore tasks and activities that are relatively analytic and that require relatively independent work. One who is field dependent and impulsive, on the other hand, can be encouraged and supported to try tasks and activities that are more social or spontaneous. But a second, less obvious way to use knowledge of cognitive styles is to encourage more balance in cognitive styles for students who need it. A student who *lacks* field independence, for example, may need explicit help in organizing and analyzing key academic tasks (like organizing a lab report in a science class). One who is already highly reflective may need encouragement to try ideas spontaneously, as in a creative writing lesson.

Multiple intelligences

For nearly a century, educators and psychologists have debated the nature of intelligence, and more specifically whether intelligence is just one broad ability or can take more than one form. Many classical definitions of the concept have tended to define **intelligence** as a single broad ability that allows a person to solve or complete many sorts of tasks, or at least many academic tasks like reading, knowledge of vocabulary, and the solving of logical problems (Garlick, 2002). There is research evidence of such a global ability, and the idea of general intelligence often fits with society’s everyday beliefs about intelligence. Partly for these reasons, an entire mini-

industry has grown up around publishing tests of intelligence, academic ability, and academic achievement.

But there are also problems with defining intelligence as one general ability. One way of summing up the problems is to say that conceiving of intelligence as something general tends to put it beyond teachers' influence. When viewed as a single, all-purpose ability, students either have a lot of intelligence or they do not, and strengthening their intelligence becomes a major challenge, or perhaps even an impossible one. This conclusion is troubling to some educators, especially in recent years as testing school achievement has become more common and as students have become more diverse.

But alternate views of intelligence also exist that portray intelligence as having multiple forms, whether the forms are subparts of a single broader ability or are multiple "intelligences" in their own right. This perspective has gained in popularity among teachers in recent years, probably because it reflects many teachers' beliefs that students cannot simply be rated along a single scale of ability, but are fundamentally diverse.

One of the most prominent of these models is **Howard Gardner's theory of multiple intelligences**. Gardner proposes that there are eight different forms of intelligence, each of which functions independently of the others. Each person has a mix of all eight abilities—more of one but less of another—that helps to constitute that person's individual cognitive profile. Since most tasks—including most tasks in classrooms—require several forms of intelligence and can be completed in more than one way, it is possible for people with various profiles of talents to succeed on a task equally well. In writing an essay, for example, a student with high interpersonal intelligence but rather average verbal intelligence might use his or her interpersonal strength to get a lot of help and advice from classmates and the teacher. A student with the opposite profile might work well alone, but without the benefit of help from others. Both students might end up with essays that are good, but good for different reasons.

1. Linguistic: verbal skill; ability to use language well • verbal persuasion writing a term paper skillfully

2. Musical: ability to create and understand music • singing, playing a musical instrument composing a tune
3. Logical: Mathematical: logical skill; ability to reason often using mathematics solving mathematical problems easily and accurately developing and testing hypotheses
4. Spatial: ability to imagine and manipulate the arrangement of objects in the environment completing a difficult jigsaw puzzle, assembling a complex appliance (e.g. a bicycle) from its parts
5. Bodily: kinesthetic: sense of balance; coordination in use of one's body dancing, gymnastics
6. Interpersonal: ability to discern others' nonverbal feelings and thoughts, sensing when to be tactful sensing a “subtext” or implied message in a person's statements
7. Intrapersonal: sensitivity to one's own thoughts and feelings noticing complex of ambivalent feelings in oneself , identifying true motives for an action in oneself
8. Naturalist: sensitivity to subtle differences and patterns found in the natural environment, identifying examples of species of plants or animals, noticing relationships among species and natural processes in the environment.

2. 4. Accommodating diversity in practice

Students are indeed diverse. The important question that follows from this point is what to do about the diversity. There is obviously more to be said about *accommodating* diversity—about actually working with students’ diversity and turning it into a resource rather than a burden or challenge. In the rest of this book therefore I offer more suggestions not only about knowing how different one student can be from another, but also about diversifying teaching to acknowledge this fact. Differences among students remain a challenge during all phases of teaching, from planning instruction, to implementing lessons and activities, to assessing students’ learning after lessons or activities are all finished.

Students differ in a multitude of ways, both individually and as groups. Individually, for example, students have a preferred learning style as well as preferred cognitive or thinking styles. They also have unique profiles of intelligence or competence that affect how and what they learn most successfully.

In addition to individual diversity, students tend to differ according to their gender, although there are numerous individual exceptions. Motor abilities as well as motivation and experience with athletics gradually differentiate boys and girls, especially when they reach high school and begin high school. Socially, boys tend to adopt relationships that are more active and wide-ranging than do girls. Academically, girls tend to be a bit more motivated and to receive slightly higher marks in school. Teachers sometimes contribute to gender role differences—perhaps without intending—by paying attention to boys more frequently and more publicly in class, and by distributing praise and criticism in ways differentiated by sex. Students also differ according to cultures, language, and ethnic groups of their families. Many students are bilingual, with educational consequences that depend on their fluency in each of their two languages. If they have more difficulty with English, then programs that add their first language together with English have proved to be helpful. If they have more difficulty with their first language, they are risk for language loss, and the consequences are also negative even if more hidden from teachers' views. On addition to language differences as such, students differ according to culture in how language is used or practiced—in taking turns at speaking, in eye contact, social distance, wait time, and the use of questions.

Differences in attitudes and in use of language have several consequences for teachers. In particular—where appropriate—they should consider using cooperative activities, avoid highlighting individuals' accomplishments or failures, and be patient about students' learning to be punctual.

Provisions for Individual Differences in Schools

To provide adequate schooling or learning experience for every learner according to his individuality is not an easy task. However following suggestions can be helpful for any teacher.

a) Proper knowledge of the individual's potentialities

The first step is to know the abilities, capacities, interests, aptitudes and other personality traits of individual pupils. For this purpose, frequent assessment in the form of intelligence tests, cumulative record card, interest inventories, attitude scales, aptitude tests and measures for assessing personality traits shall be carried out.

b) Ability grouping

In the light of results derived from various tests of knowing individual differences in various potentials, the students in a class can be divided into homogeneous groups.

c) Adjusting the curriculum

The curriculum should be as flexible as possible. It should have the provision for a number of diversified courses.

d) Adjusting the methods of teaching

Considering the varying individual differences adjustment with regard to the adaptation of methods of teaching is very effective.

Part five: Learning

5.1. Definition :

“Learning is a relatively enduring change in behaviour which is a function of prior experience or behaviour.”

The above definition emphasizes four attributes of learning as a process.

1. Learning is a permanent *change* in behaviour. Here it is important to note that the change may be for better or worse. It does not include change due to illness, fatigue, maturation and use of intoxication,
2. Learning is *not* directly observable but manifests in the activities of the individual,
3. Learning results in some change of *enduring nature*, i.e. Learned changes should stay a fairly long period of time, transient effects of drug, alcohol etc will not be considered as part of learning. and
4. Learning depends on *practice* and *experience*, i.e. learning primarily due to maturation (biological programming) is not learning. Example swallowing, sucking breast, stand and walking, voice change at puberty etc.

5.2. Characteristics of Learning

Do you list some characteristics of learning?

The following are some important characteristics of learning

1. Learning is growth

Through his/her daily experiences the learner grows mentally and physically. Learning is growth through experience.

2. Learning is Adjustment

Learning helps the individual to adjust him/herself adequately to the new environment or situations. Individuals meet with new environment, which demand solution. Repeated exercises are required to react to them effectively.

3. Learning is organizing Experience

Learning is not mere addition or the acquiring of new knowledge, facts or skills. It is also the reorganization/reconstruction of experience.

4. Learning is purposeful

The process of learning is based on purpose; purpose plays a big role in learning.

5. Learning is Active

In the process of learning active involvement of the individual in his environment is required. This can take place by questioning, problem solving, discussion etc.

6. Learning is both individual and social

Learning is more than an individual activity. It is a social activity too. Social agencies like family, peers, teachers, social and religious institutions etc. have a tremendous influence on the individual and are always modeling and remodeling him or her.

7. Learning the product of environment

Environment plays an important role in the individual's learning. It either enhances or stifles learning. In learning there is an interaction of the environment with the organism.

8. True Learning Affects the Conduct of the Learner

There is a change in the mental structure of the learner after every experience or learning.

5. 3. Factors Affecting Individual Learning

- Can you list some factors that affect individual learning?

There are many factors that hindered or facilitate human learning. Basically factors are three;

- ❖ *Factors related to the learner*
- ❖ *Factors related to the teacher, and*
- ❖ *Factors related to the subject matter.*

The problems for example are hereditary, the physical conditions of the learner, health related problems, home environment, psychological and pedagogical conditions and natures of learners and teachers etc. See the following detailed list of factors;

General factors that affect human learning	Additional factors that affect learners
<ul style="list-style-type: none"> - Objective/purpose of learning - Readiness for learning - Interest - Physical, emotional or social condition - Application of full attention - Strong motivation to learn - Active involvement of the learner - Feedback and reinforcement to the learner - Practice - Testing - Age - Study habits of students - Organization and presentation of learning materials <p><i>Please add</i></p>	<ul style="list-style-type: none"> - <i>Lack of :</i> - Opportunity for peer group stimulus, group involvement - Access to library, laboratory - Personal contact with tutor - External motivation - Counselling for individual problem experienced - Inadequate general education of the student to taken the course being attempt - In adequate allocation of time for studying the correspondence materials - Poor postal services - Poor lesson material - Poor tutorial assistance

5.4. Types of Learning

There are many types of learning, ranging from simple to complex in educational psychology.

Different scholars classify learning differently. Robert Gage (1972) gives the following classification of learning types:

- A. **Verbal information:** this refers to facts about events, features, structures, processes and so on. Example, historical events, geographical features, biological processes (listening to lectures, reading and discussion).
- B. **Intellectual skills:** it is ability to master symbols and think properly using the symbols. Example, language and mathematical skills (demonstration and practice is useful for mastery).
- C. **Motor skill:** development of abilities which involve muscular activity. Example, typing, operating a machine, setting a laboratory experiment (the skill should be executed in the proper sequence; it should be executed smoothly).
- D. **Affective/attitudinal domain:** acquisition of positive or negative tendencies to phenomena (persons, religions, ideologies, ethnic groups, vocations etc). The development of values such as honesty and considerateness is also affective learning. Factors contributing for attitude developments are need/aspirations of the individual, social pressure, individual experience, instructor modeling etc.

5.5. Theories of Learning and their Implications

Formalized learning theory was developed in the late nineteenth century when proponent of various approaches attempted to build their own theory to explain the problem of learning. A theory of learning cannot be defined to satisfy all interested person. There are three broad classification of learning theories. These are behavioural learning theory, social learning theory and cognitive learning theory. In this section these three major learning theories will be discussed one by one.

1) Behavioural Learning Theories

Basic Assumption of Behaviorists

Behaviorism is a school of thought that emphasizes the role of experience in governing behaviour. According to behaviorist the important processes governing behaviour are learned. Both the drives that initiate behaviour and the specific behaviours motivated by these drives are

learned through our interaction with environment. A major goal of the behaviorists is to determine the laws governing learning. Behaviorism, as learning theory, is more interested in misbehavior and how behaviour changes as a result of a person's experiences. Behaviorism concentrates on the study of overt behaviours that can be observed and measured. This concern about the nature of learning has dominated academic psychology for most of the century.

The assumption which underlie the behaviorists perspective are

- ✓ Learning is a change in response or in the way the learners act.
- ✓ A stimulus is necessary to activate learning.
- ✓ The learner has to do something (respond to a stimulus) for learning to occur.
- ✓ Repetition of the Stimulus-Response (S-R) connection promotes learning.
- ✓ The consequences that follow the responses of the learner to a stimulus can hinder or encourage learning.
- ✓ Learning is verified through observation i.e. the changes in the action/behaviours of the learner should be directly observable.

Within the behavioural approach to learning there are different theories that can be seen under two categories.

S – R theories without reinforcement such as

Pavlov's classical conditioning paradigm

Watson's contiguity theory

S- R theories with reinforcement such as

Skinner's operant conditioning theory

Thorndike's theory of connection.

Key proponents in the development of the behaviorist theory are:

1. Ivan Pavlov (classical conditioning theory)
2. B.F. Skinner (operant conditioning theory)

1. S – R theories without reinforcement

Ivan Pavlov's Classical Conditioning

- Do you list some contribution of Pavlov for the development modern theory of learning?
- Who was Ivan Pavlov?

Classical conditioning was developed by a Russian physiologist Ivan Pavlov around the turn of the 20th century classical conditioning grew out of a tradition that can be traced back to Aristotle's who believed that learning depended, on contiguity the occurrence of events close together in time and space.

Pavlov, a Russian physiologist, won a noble prize in 1904 for his research on digestion in dog. His research stimulated worldwide scientific interest in the study of associative learning. In his research on digestion, Pavlov would place meat powder on dog's tongue, which stimulated reflexive salivation. He found that after repeated presentations of the meat powder, the dog would salivate in response to stimuli (that is environmental event) associated with the meat powder. A dog would salivate at the sight of its food dish, the sight of the laboratory assistant who brought food, or sound of the assistant's footsteps. Pavlov has been studied this basic type of associative learning which is now called *classical conditioning or Pavlov's conditioning*.

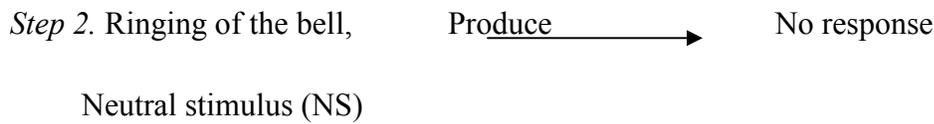
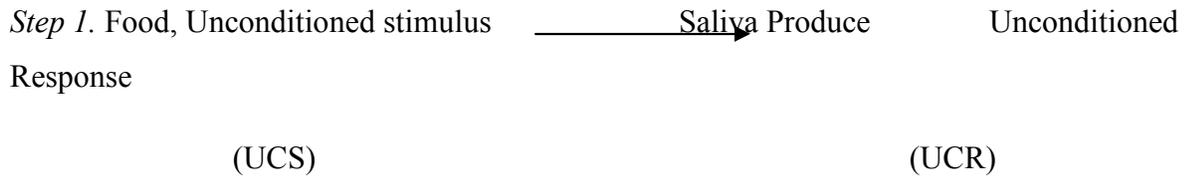
What do you understand from the above discuss?

- Classical conditioning emphasized on the learning of involuntary emotional or physiological response such as fear, salivation or sweating.
- Classical conditioning also called respondent condition because automatic response transfers from one stimulus to another.
- Classical conditioning occurs when a person form mental association between two stimuli people tends to form these mental associations between events or stimuli that occur closely together in space and time.
- Sometimes classical also called as stimulus substitution; because it involves substituting a neutral stimulus in place of natural stimulus. During the conditioning procedures the CS-UCS pairing will enables the CS to have the capacity to activate the UCS area so that CR will occur whenever CS is presented.

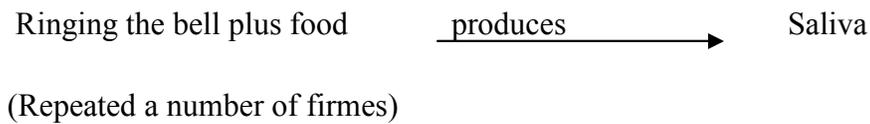
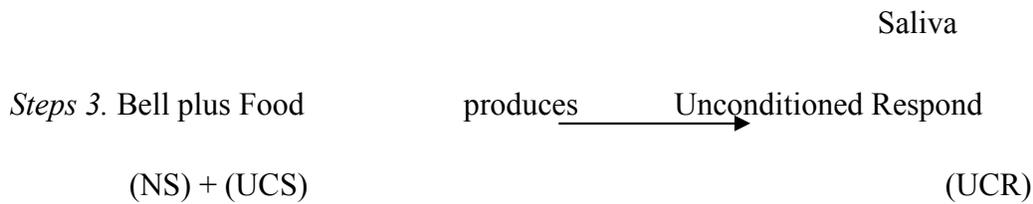
Pavlov's experiment had three phases

Schematic presentation of the conditioning process

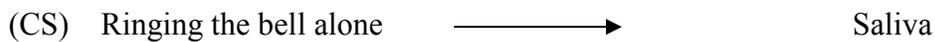
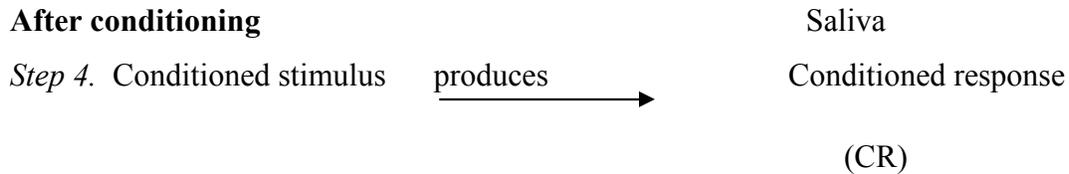
Before conditioning



During Conditioning



After conditioning



- What do you understand from the above schematic presentation of conditioning process?
- Why do we call “food” UCS, “saliva” UCR on the first step?
- Why bell is called “NS” at the second step?
- Why we call the bell “CS” and “Saliva” CR at the 4th step.
- The term unconditioned stimulus (UCS) “food” and unconditioned response (UCR) “saliva” on the first step indicate there is unlearned, or inborn connection between the stimulus (food) and the response (saliva)
- The bell is called neutral stimulus (NS) on the second step because it does not initially produce any saliva as a response.
- Because the bell – food association over and over again (step 3) the bell alone eventually (CS) causes the dog to salivate (CR) (Step – 4).

Some Phenomena of Classical Conditioning

Pavlov and his associates discovered several phenomena during their experimental studies on the gastric secretion in dog.

The main findings are:-

- | | |
|-------------------------|-------------------|
| 1. Acquisition | 4. Generalization |
| 2. Extinction | 5. Discrimination |
| 3. Spontaneous recovery | |

1. Acquisition

The acquisition phase is the initial learning of the conditioned response. E.g. The dog learning to salivate at the sound of the bell. Order and timing of the stimuli affect the speed of conditioning during the acquisition phase.

The following conditionings are identified based on the time interval between CS and UCS

(a) Delayed conditioning

- CS is presented first and remains until the onset of UCS

(b) Trace conditioning

- The CS is first presented and ends before the onset of UCS

(c) Simultaneous conditioning

- The CS and UCS begin to present together within half a minute.

(d) Backward conditioning

- UCS is presented first and followed by CS
- Which conditioning produce strong conditioning and weak conditioning?

2. Extinction

In Pavlov classical conditioning, if the conditioned stimulus (the bell) is repeatedly presented without being followed by the unconditioned stimulus (the food) for a number of trials, the conditioned response was found to “weaken” gradually and get “extinguished”.

“Extinction is a process of learning to inhibit the response acquired in conditioning”

3. Spontaneous recovery.

When the dog is brought out of the experimental set-up and again put in the set – up after a lapse of time, the dog responds to conditioned stimulus (CS). This process is called spontaneous recovery. This process explains that there is no complete extinction due to time interval but there is inhibition of CR.

4. Generalization

Is a process in which a conditioned response to a stimulus is generalized to similar category of stimuli? After the dog salivate in response to hearing one particular sound, it would also salivate after hearing other similar sound.

5. Discrimination

Refers to the ability to respond to one tone but not to others that are similar by making sure that food always followed only by one tone, not others.

Applications of classical conditioning

Now it is time to see the applications of the principles of classical conditioning in various life situations.

See the following examples where by the principles of classical conditioning can be used.

1. **Developing good habits:** principles of classical conditioning can be used for developing good habits in children such as cleanness (neat), respect for elders and punctuality etc.
2. **Breaking of bad habits and elimination of conditioned fear:** all learning is acquired in the social environment. Acquired may be reconditioned by using the principle of classical conditioning. Principles of classical condition can be used to reconditioning anxiety, fear in maladjusted children, developing risk free health behaviour.
3. **Training of animals:** animals are trained to show human actions, behaviours, e.g. animal circus.
4. **Use in psychotherapy.** The principles of classical conditioning are used in reconditioning emotional fears in mental patients.
5. **Developing positive attitude** classical conditioning can be used to develop favorable or unfavorable attitude towards something.

2. S - R theories with reinforcement

Operant Conditioning

The founder of this theory is B.F. Skinner. He began with the belief that the principles of classical conditioning account for only a small portion of learned behaviours. He suggested that most behaviour is emitted or voluntarily enacted. The theory is called operant conditioning because it is based on certain operations or actions. People actively “operate” on their environment to produce different kinds of consequences. These deliberates are called operant.

An operant is a set of acts, which condition an organism in doing something. The learning process involved in operant behaviour is called operant conditioning. In the process of operant conditioning, operant responses are modified or changed by the consequences. Behaviour like

response or action is simply a reward for what a person does in a particular situation. To study the effects of consequences on behaviour under carefully controlled situations skinner designed a special cage like apparatus called Skinner box. The subject of this experiment put was rat.

The typical Skinner box is a small enclosure containing only food tray and a lever or a bar. The lever is connected to a food hopper. In one experiment a hungry rat is placed in the box and continues to explore it. Since a rat tend to hungry, the animal will eventually get a round to pecking the lever. Then a small food pellet drop in to tray. The hungry rat eat the food, moves around again and pecks the lever again, more food dropped and eat continuously, the next time the rat is placed in the box, it will go directly to the lever and begin pecking.

The above experiment explains that behaviour occurs in the environment as a result of active actions of the animal upon the environment. What follows this action or behaviour is important.

We learn this way every day in our lives. Imagine the last time you made a mistake; you most likely remember that mistake and do things differently when the situation comes up again. In that sense, you've learned to act differently based on the natural consequences of your previous actions. The same holds true for positive actions. If something you did results in a positive outcome, you are likely to do that same activity again.

Operations involved in operant conditioning

Some of the operations are: shaping, reinforcement, and punishment. Extinction and spontaneous recovery, stimulus generation and discrimination are discussed so far in relation to classical conditioning.

1) Shaping – is important mechanism used in operant conditioning. It is the judicious use of selection reinforcement to bring change in desired behaviour, or it is the process of reinforcing each small step of progress toward a desired goal. The basic process in shaping is successive approximation to the designed goal.

- For a response to be reinforced, it must first occur. But, suppose you to train a child to use a knife and a fork properly. Such behaviors, and most others in everyday life, have almost no probability appearing spontaneously.

- The operant solution for this is **shaping**. Shaping is an operant conditioning procedure in which successive approximations of a desired response are reinforced.
- In shaping you start by reinforcing a tendency in the right direction. Then you gradually require responses that are more and more similar to the final, desired response. The responses that you reinforce on the way to the final one are called **successive approximations**.

2) Reinforcement – refers to the use consequences to strengthen the behaviour it follows. It is a stimulus whose presentation or removal increases the probability of the occurrence of a response or behaviour.

The term reinforce means to strengthen, and is used in psychology to refer to anything stimulus which strengthens or increases the probability of a specific response. For example, if you want your dog to sit on command, you may give him a treat every time he sits for you. The dog will eventually come to understand that sitting when told to will result in a treat. This treat is reinforcing because he likes it and will result in him sitting when instructed to do so.

This is a simple description of a reinforce (Skinner, 1938), the treat, which increases the response, sitting. We all apply reinforces everyday, most of the time without even realizing we are doing it. You may tell your child "good job" after he or she cleans their room; perhaps you tell your partner how good he or she look when they dress up; or maybe you got a raise at work after doing a great job on a project. All of these things increase the probability that the same response will be repeated.

Types of reinforcement

A) Positive reinforcement: - It occurs when presenting positive value stimulus strengthens the probability of the occurrence of a response (e.g. Water, food, praise). The examples above describe what is referred to as positive reinforcement. Think of it as adding something in order to increase a response. For example, adding a treat will increase the response of sitting; adding praise will increase the chances of your child cleaning his or her room. The most common types of positive reinforcement or praise and rewards, and most of us have experienced this as both the giver and receiver.

B) Negative reinforcement: - is any stimulus the removal or withdrawal of which strength the

probability of the occurrence of a response (e.g. loud noise, bright light, electric shock, failure, rejection, criticism). Think of negative reinforcement as taking something negative away in order to increase a response. Imagine a teenager who is nagged by his mother to take out the garbage week after week. After complaining to his friends about the nagging, he finally one day performs the task and to his amazement, the nagging stops. The elimination of this negative stimulus is reinforcing and will likely increase the chances that he will take out the garbage next week. Skinner also examined and categorized reinforcers according to their power.

Primary reinforcers – these are natural or innate reinforcers and are those that affect behaviour without the necessity of learning. They are satisfying basic/ biological needs – like food, water, sex etc.

Secondary reinforcers: are those that acquire reinforcing power because they have been associated with primary reinforcers-money is a good example. Facial expressions (frowning, smiling), words (praise): privileges (appointment to leadership role), social approval etc are also some types of secondary reinforcers.

3) Schedules of Reinforcement

In real life situations, reinforcement does not occur every time a response makes a correct response to a given stimulus. Reinforcement occurs according to a certain schedule. The schedules of reinforcement may be made on the basis of number, time and rate of response between reinforcement or a combination of all these.

There are two major types of reinforcement schedules

1. Continuous reinforcement schedule
2. Intermittent/partial reinforcement schedule

1. Continuous reinforcement schedule: It is an arrangement of providing reinforcement after every correct response.
2. Intermittent or partial schedule. It is an arrangement where sometimes we provide reinforcement and sometimes we withhold the reinforcement.

Types of intermittent or partial reinforcement

1). Interval schedule: It is an arrangement of giving reinforcement after an interval of time. Example after every 2 minutes.

A) *Fixed interval (FI)* schedule reinforcement is presented after prescribed fixed time interval. Applying the reinforces after a specific amount of time is referred to as a fixed interval schedule. An example might be getting a raise every year and not in between. A major problem with this schedule is that people tend to improve their performance right before the time period expires so as to "look good" when the review comes around.

Example: application of fixed – interval schedule are many

- (a) Students attend classes at certain fixed hours of the day.
- (b) We eat at regular periods in the day.
- (c) Payment of salary on 1st of every month.
- (d) Administration of quiz test on every Monday to the class.

B) *Variable Interval (VI)* schedule in this schedule reinforcement is after various length of time. Example, after 3', 6', 10', 2', 20', etc. Reinforcing someone after a variable amount of time is the other schedule. If you have a boss who checks your work periodically, you understand the power of this schedule. Because you don't know when the next 'check-up' might come, you have to be working hard at all times in order to be ready.

2). Ratio schedule: reinforcement is administered based on the number of correct responses given between reinforces.

A). *Fixed ratio (FR)* schedule reinforcement is administered after a fixed number of correct responses. A fixed ratio schedule refers to applying the reinforcement after a specific number of behaviors. Spanking a child if you have to ask him three times to clean his room is an example. The problem is that the child (or anyone for that matter) will begin to realize that he can get away with two requests before he has to act. Therefore, the behavior does not tend to change until right before the preset number.

In this schedule

- higher rate of response is recorded
- start with a low ratio and gradually increase the ratio

Example of FR

- (a) A man is paid after completing certain amount of work
- (b) Commission agents receive commission after selling a certain amount of commodity
- (c) Student learns 25 lines and gets a coffee

When reinforcement is applied on an irregular basis, they are called variable schedules.

B). *Variable ratio (VR)* schedule. This refers to applying reinforces after a variable number of responses. Variable ratio schedules have been found to work best under many circumstances and knowing an example will explain why. Imagine walking into a casino and heading for the slot machines. After the third coin you put in, you get two back. Two more and you get three back. Another five coins and you receive two more back. How difficult is it to stop playing? Example, reinforcement is given after a varying number of maths problems are computed.

In above four cases, the variable schedules are more powerful and result in more consistent behaviors and specifically variable ratio is the most persistent and enduring. This may not be as true for punishment since consistency in the application is so important, but for all other types of reinforcement they tend to result in stronger responses.

4) Punishment: - involves the presentation of an aversive stimulus (positive punishment) or withholding of a positive stimulus (negative punishment) to decrease the probability of a response.

Punishment refers to adding something aversive in order to decrease behaviour. The most common example of this is disciplining (e.g. spanking) a child for misbehaving. The reason we do this is because the child begins to associate being punished with the negative behaviour. The punishment is not liked and therefore to avoid it, he or she will stop behaving in that manner.

The Pros and Cons of Punishment

▲ For Punishment to work there must be:

- **Immediacy** – When punishment follows immediately after the behaviors to be punished.
- **Consistency**- when punishment is inconsistent the behavior being punished is intermittently reinforced and therefore becomes resistant to extinction.
- **Intensity**- In general terms severe punishments are more effective than mild ones. But, there are studies that indicate that even less intense punishments are effective provided that they are applied immediately and consistently.

▲ When does punishment fail?

1. People often administer punishment **inappropriately or mindlessly**. They swing in a blind rage or shout things they do not mean applying punishment so broadly that it covers all sorts of irrelevant behaviors.

2. The recipient of punishment often responds with **anxiety, fear or rage**. Through a process of classical conditioning, these emotional side effects may then generalize to the entire situation in which the punishment occurs- the place, the person delivering the punishment, and the circumstances. These negative emotional reactions can create more problems than the punishment solves. A teenager who has been severely punished may strike back or run away. Being physically punished in childhood is a risk factor for depression, low self-esteem, violent behavior and many other problems.
3. The effectiveness of punishment is often temporary, depending heavily on the presence of the punishing person or circumstances
4. Most behavior is hard to punish immediately.

Punishment conveys little information. An action intended to punish may instead be reinforcing because it brings attention.

5) Behavior Modification

The application of some of the principles of classical and operant conditioning to changing behavior is called behavior modification. Its major goal is to replace unacceptable responses with acceptable ones. The basic idea underlying this area of application is the issue of changing maladjusted and unwanted behaviors of humans and animals alike through the use of the effects of reinforcement and punishment.

This is actually a very important technique formulated by behaviorists so as to treat people who are suffering from various kinds of psychological problems. The intention, in here, is molding or changing abnormal behaviors which create some sort of malfunction in the lives of human beings. Behavior modification is used in many situations, ranging from therapy to child rearing. Ignoring a child's temper tantrum but rewarding that child's polite behavior is an example of a behavior modification procedure.

- Please identify the differences and similarities of classical conditioning and operant conditioning?

Classical conditioning and operant conditioning a comparison

Classical conditioning	Operant conditioning
<ol style="list-style-type: none"> 1. Conditioned stimulus is linked with the unconditioned stimulus to produce unconditioned response 2. Stimulus oriented 3. Learning is through stimulus 4. Behaviour is elicited 5. Response is involuntary 	<ul style="list-style-type: none"> - Response is linked with reinforce - Response oriented - Learning is through response modification - Behaviour is emitted - Response is voluntary

2) Social learning Theory

Social learning theory is a major outgrowth of the behavioural learning theory tradition. Developed by Albert Bandura, Social learning theory accept most the principles of behavioural theorists but focuses to much greater degree on the effects of cues on behaviour and internal mental processes, emphasized the effects of thought on action and action on thought.

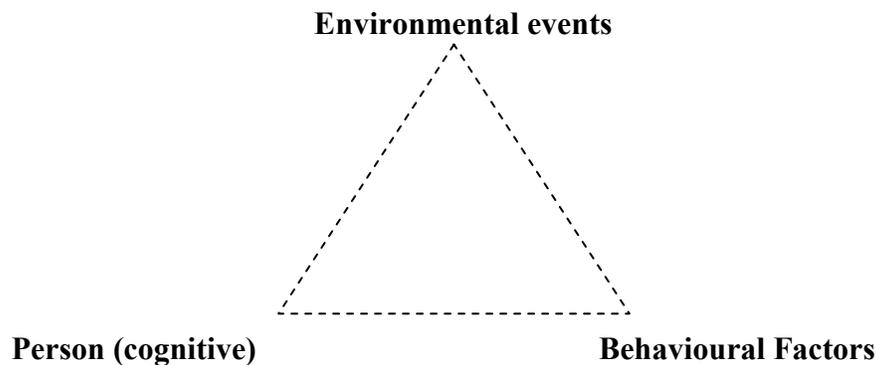
Bandura noted that the Skinnerian emphasized on the effects of the consequences of the behaviour largely ignored the phenomena of modelling (the imitation of others behaviour) and of vicarious experience (learning from others' successes or failure).

He felt that much of human learning is not shaped by its consequences but is more efficiently learned directly from a model. The physical education teacher demonstrates jumping jacks, and the students imitate. Bandura calls this no-trial learning, because students don't have to go through a shaping process but can reproduce the correct response immediately.

Observational learning is learning a type that occurs when a person observes and imitates someone else's behaviour. This theory states that social and cognitive factors, as well as behaviour, play important roles in learning. Cognitive factors might involve the students' expectation, beliefs, attitudes, thinking, self efficacy, etc for success; social factors might include students' observing their parents' achievement behaviour

Bandura developed a reciprocal determinism model that consists of three main factors: *behaviour, person (cognitive) and environment*. These factors can interact to influence learning.

Environmental factors influence behaviour, behaviour affects the environment, person (cognitive) factors influence behaviour and so on.



One of the classical experiments in social learning theory is a study done by Bandura. Children were shown one of three films, in which a model beat up an adult size plastic toy called a Bobo doll. In the three, an adult modelled aggressive behaviour. In one film the model was severely punished. In another the model was praised and given treats. In a third the model was given no consequences. After viewing one of the films, the children were observed play with toys through a one-way mirror.

The children who had seen the model punished engaged in significant fewer aggressive acts in their own play than did the children who had seen the model rewarded or had viewed the no consequences films.

A second important point in this study focuses on the distinction between learning and performance. Just because students don't perform a response doesn't mean they didn't learning it. He suggested that we all may know more than we show. Learning may have occurred and may not be demonstrated until suitable conditions take place. That means, when a child observes behaviour but makes no observable response; the child may still have acquired the modeled response in cognitive form.

Learning by observing others

People can learn through modelling and imitation. If they learn by watching, they must be focusing their attention, constructing images, remembering and making decisions that affect learning.

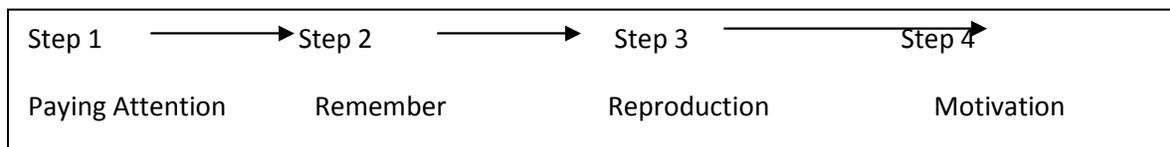
Two modes

1) Observational learning can take place through vicarious reinforcement. This takes place when we see others being rewarded or punished for particular action and modify our behaviour as if we had received the consequence ourselves.

2) In the second kind of observational learning, the observer imitates the behaviour of a model with no reinforcement and punishment received by the model. The model shows something the observer wants to learn. Imitation also can take place when the observer wants to become more like an admired or high status model. The observer may also use fictional characters as models and try to be having as we imagine to model.

Bandura's steps to observational Learning

Bandura analysis of observational learning involves four phases;



Bandura believes that reinforcement is not always necessary for observational learning to take place. But if the child does not reproduce the desired behaviours. Three types of reinforcement can help do the trick:

1. Reward the model
2. Reward the child
3. Instruct the child to make self-reinforcing, statements such as 'Good, I did it!'

Gestalt Theory of Learning

Gestalt theory of learning is part of cognitive theory of learning. It is also named as learning by insight. The founders of Gestalt psychology are Max Wertheimer and his colleagues Kurt Koffka, and Wolfgang Kohler.

“**Gestalt**” is a German word, which means “**configuration**” or it means an organized whole in contrast to a collection of parts.

Gestalt psychologists explain that an individual perceives wholes and not parts. According to them learning is viewed as purposive, explorative, imaginative and creative enterprise in which the learner takes the total situation into account.

Basic principles of Learning

Certain laws of perceptual organization have been developed and some basic ones as follows.

- (a) **The law of similarity** – it suggests that similar things tend to associate in a group and are easy to recall than dissimilar things. Thus learning similar things is easier than learning dissimilar things.
- (b) **The law of proximity** – it states that objects which are close in space and time tend to form a gestalt. This means that we perceive all closely situated or located things as a group.
- (c) **The law of figure – ground** – it states that everything we perceive stands against a background.
- (d) **The law of closure** – it states that closed areas are more stable than unclosed ones and therefore, more readily form figures in perception.
- (e) **The law of good continuation** – states that organization in perception, which appears to go in a particular direction, appears to be going infinitely in the same direction. So there is a tendency of factors to give direction, movement, and continuation to perceptual organization.

In general gestalt theory of learning explains that insight learning involves the following activities.

- The learner perceives the situation as a whole and relationship among all relevant parts.
- The learner tries to understand the relationships by various factors involved in a situation.
- As a result of the understanding of the relationship, the learner is helped in the sudden grasping of the solution of the problem.
- Once the organism learns to solve a problem by insight there is every possibility of high degree of transfer to similar problems.

The main factor in Gestalt theory of learning is the development of insight. The individual and his/her environment form a psychological field. According to Gestalt psychology, the perception of the field and gradual restructuring of it leads to insight.

Latent Learning

- ‘Latent’ means *hidden* and thus latent learning is learning that occurs but is not evident in behavior until later, when conditions for its appearance are favorable.
- Latent learning (sometimes called incidental learning) is learning without reinforcement and is not immediately demonstrated when it occurs. For example, if a student wants a coffee break, wonders where to go, and suddenly remembers a new coffee shop near campus, the student is demonstrating latent learning.
- It is said to occur without reinforcement of particular responses and seems to involve changes in the way information is processed.
- **Tolman**, a well-known investigator of cognitive learning, suggested that organisms form cognitive maps of their environments, maps that can be used when needed.
- In a classic experiment, **Tolman** and **C.H. Honzik** (1930) placed three groups of rats in mazes and observed their behavior each day for more than two weeks.
- The rats in Group 1 always found food at the end of the maze. Group 2 never found food. Group 3 found no food for ten days but then received food on the eleventh. The Group 1 rats quickly learned to head straight to the end of the maze without going down blind alleys, whereas Group 2 rats did not learn to go to the end. But, the group three rats were different. For ten days they appeared to follow no particular route. Then, on the eleventh day they quickly learned to run to the end of the maze. By the next day, they were doing, as well as group one, which had been rewarded from the beginning.
- Group three rats had demonstrated latent learning, learning that is not immediately expressed. A great deal of human learning also remains latent until circumstances allow or require it to be expressed.

Insight Learning

- It is a cognitive process whereby we reorganize our perception of a problem. It doesn't depend on conditioning of particular behaviours for its occurrence. Sometimes, for

example, people even wake from sleep with the solution to a problem that they had not been able to solve during the day.

- Insight learning is a form of problem solving in which the organism develops a sudden insight or understanding of a problem's solution.
- An insight is a new way to organize stimuli or a new approach to solving a problem. A student struggling with a mathematical problem who suddenly sees how to solve it without having been taught additional methods has had an insight. Wolfgang Kohler, a famous Gestalt psychologist, demonstrated that chimpanzees can solve problems using insight. Chimps placed in a cage, with bananas beyond their reach, learned that they could pile up boxes or attach one stick to another to reach and obtain the food. The chimps had not been reinforced for these specific behaviors but learned how to get the food through insight. Once insight has occurred, no further instruction or training is required.
- In a typical insight situation a problem is posed, a period follows during which no apparent progress is made, then the solution comes suddenly. What has been learned in insight learning can also be applied easily to other similar situations.
- Human beings who solve a problem insightfully usually experience a good feeling called an 'aha' experience.

Part Six: Motivation

6.1. Meaning

We see a girl getting bruises and cuts and quite often falling down while learning cycling, but she tries to improve her performance by continued practice. Similarly, an athlete may be seen to rise quite early in the morning and regularly visit the track or field for continued practice irrespective of the odds of the seasons. A student may be seen to burn the midnight oil as the examination approaches. What makes the above girl, the athlete and the student behave in a particular manner? The answer to such question on the why and how behavior lies in the key word 'motivation'. They behave as they do because they are motivated to do so. *Motivation, thus, may be regarded as something which prompts, compels and energizes an individual to act or behave in*

a particular manner at a particular time for attaining some specific goal or purpose. But what exactly is responsible for the motivation of an individual?

6.2. Theories of motivation

Teachers need to have a repertoire of classroom strategies that will support students' motivation to learn. The first step is to understand the different psychological perspectives that explain motivation. In this section, we focus on the four main theories that explain motivation to learn: behavioral, cognitive, sociocognitive, and humanistic.

Behavioral Theories of Motivation

According to behaviorism, student motivation is the result of seeking rewards and avoiding punishments. Students will be motivated to do things that are reinforced and unmotivated to do things for which they are likely to be punished. Remember that reinforcements can be positive (e.g., rewards) or negative (e.g., removing the obligation to do homework) consequences that increase the likelihood that a student will engage in a desirable activity. Conversely, punishments are consequences that decrease the likelihood that a student will engage in an undesirable activity.

Behaviorist theories of motivation, therefore, focus on the use of reinforcement to promote academic motivation and the use of punishment to decrease students' motivation to engage in academically nonproductive activities. However, punishment should be avoided whenever possible. It is not only less effective than reinforcement for achieving behavioral change, but it also creates negative emotional consequences that become associated with the punisher (i.e., the teacher) and the learning experience itself.

Applying Behavioral Principles to Motivate Students.

Positive reinforcers may include giving money, tokens, or gifts for completing assignments; praising students either verbally or by giving them a certificate of achievement or placing them in the school's honor roll; and allowing to do something they are interested in, such as giving them extra time at recess, allowing them to play computer games, or having a pizza party. The most common negative reinforcer used by teachers is removing a homework assignment.

Despite the teacher's intention, a student may not respond to an incentive because he/she may not find that the incentive is important or interesting. Likewise, a student may not respond to punishment if the type of punishment is appealing to the student. In other words, the right consequence for a student is one that is personally meaningful to him/her. Therefore, you should know your students' interests and values to ensure that the consequences that you establish will have the effect that you intend. Some students strive for praise whereas others are motivated by tangible rewards such as money, candy, or privileges or by social rewards such as peer recognition or popularity.

Unfortunately, sometimes peer acceptance may motivate wrong or unproductive behaviors in the classroom.

Behavioral approaches to motivation are closely linked to extrinsic motivation because they rely on external incentives to promote academic performance. The fact that extrinsically motivated students are less likely to achieve as compared to intrinsically motivated students raises a question: Should teachers use incentives as academic motivators? To answer this question, we discuss the effectiveness of three of the most common incentives in the classroom: rewards, praise, and feedback.

Rewards, Praise, and Feedback as Classroom Incentives

Rewards are positive reinforcements aimed at increasing the likelihood that a student will perform a desirable academic task. You may recall from Chapter 5 that a long-debated issue in education is whether teachers should provide rewards to promote long-term learning. Before we answer this question, we need to distinguish between two kinds of rewards: informational and controlling (Deci & Ryan, 1987). *Informational* rewards are highly recommended because they provide useful feedback to students and typically increase intrinsic motivation and learning. Examples are saying, “Excellent job! You have mastered reducing fractions to their common denominator” or “You have made very good progress on your science project: You planned your work well, completed all the requirements, and helped your peers who were falling behind. You deserve an award!”

In contrast, *controlling* rewards are aimed only at shaping students’ behavior. Messages such as “If you do your homework, you will earn extra points” or “Those who work on their problems quietly will get a gold star” are examples of controlling rewards. Controlling rewards may increase extrinsic motivation, but they typically reduce task engagement and interest once the rewards are terminated. Consequently, experts in motivation recommend using extrinsic motivators only when students would not otherwise engage in the task, in the hope that students will eventually appreciate the learning experience and become intrinsically motivated to learn.

In these cases, it is very important that all students be given equal opportunity to get the reward and that teachers model intrinsic reasons for engaging in the task, such as by demonstrating how exciting, enjoyable, or valuable the task can be. As students experience the joy and value of learning themselves, the incentives are no longer needed to promote their motivation.

Positive reinforcers: Behaviorist methods to increase academic motivation and examples.

METHOD EXAMPLES

Rewards A student receives an A on an exam or is the first to finish a drill.

A teacher gives tokens that can be exchanged for school supplies whenever students complete their homework. A parent promises to give her child extra allowance money if she gets an A on a math exam. Praise A teacher says, “Good job on the essay!” After receiving a grade report, a parent says, “I am so pleased with this report! Nice job!” A peer tells a student, “You are so good in math!”

- Privileges A teacher gives a student extra recess time.
- A parent allows his child to invite his best friend to a concert.
- Social recognition a teacher nominates a student into the school honor roll.
- Peers vote and elect a student to represent their classroom in a spelling contest.
- Obligation removal A teacher removes a homework assignment.
- A parent removes the duty to mow the lawn for the week.

Praise is the most common incentive in the classroom. Feedback, another classroom incentive, can be motivating when it provides students with information about their increasing competence because it satisfies their need to know how they are progressing (Clifford, 1990). Similar to rewards, the reinforcing effect of feedback depends on the type of feedback given by the teacher. *Performance feedback* focuses on giving students information about how they performed in relation to other students in the class. *Informational feedback* focuses on giving students information about how their performance can be improved. For instance, Mr. Alemu gives the following informational feedback on a writing assignment during a teacher–student conference: “ALMAZ, you wrote a very good paper. Your ideas were clear and original, you organized the paper well by creating good headings for each main topic, and you produced a very engaging conclusion. I would have liked to see better transitions between the topics that you covered. Sometimes you end one topic and jump to the next without explaining how the two topics relate to each another. I brought with me some good transition examples that I would like to show you.” Informational feedback leads to greater intrinsic motivation, task engagement, and persistence than performance feedback, with written informational feedback showing the highest effectiveness (Hattie & Timperley, 2007; Mory, 2004).

Cognitive Theories of Motivation

Cognitive theories of motivation focus on students’ thoughts, beliefs, expectations, and attitudes—and how they create or reduce motivation to learn (Schunk, 2000). Consequently, cognitive theories emphasize the importance of promoting intrinsic rather than extrinsic motivation and explain why, even under identical environmental circumstances, some students strive to succeed while others are apathetic and unmotivated.

In many ways, cognitive theories of motivation also developed as a reaction to the behavioral views. Cognitive theorists believe that behavior is determined by our thinking, not simply by whether we have been rewarded or punished for the behavior the past. Behavior is initiated and regulated by plans, goals, schemas, expectations, and attributions (Weiner, 1992). One of the central assumptions in cognitive approaches is that people do not respond to external events or physical conditions such as hunger, but rather to their interpretations of these events. In cognitive theories, people are seen as active and curious, searching for information to solve personally relevant problems. Thus, cognitive theorists emphasize intrinsic motivation. Bernard Weiner’s attribution theory is a good example

In this section, we will review three important cognitive theories of motivation: goal, and self- determination.

Goal Theory

Goal theorists believe that the process of goal setting and the type of goals chosen by a student can have a strong influence on his/her motivation to learn (Thrash & Elliott, 2001). The most traditional classification of learning goals consists of mastery and performance goals. A **mastery goal**, also called a learning goal, focuses on improvement and increased understanding (Midgley, 2001; Pintrich, 2000). A student who persists on trying to learn a difficult language because he would like to be able to read in that language is said to have a mastery goal. Conversely, a student who has a **performance goal** will not be interested in mastering the task or gaining a good understanding of a topic but will focus on competence or ability and achieving a certain end result, such as a high grade or social recognition

Students with mastery goals are those who benefit the most from classroom experiences because they are more likely to believe that they can make progress if they put forth effort; they are self-regulated; they have intrinsic motivation to learn; they persist when confronted with challenges; they attribute their success and failure to internal, controllable causes (e.g., effort); and they actively engage in learning strategies that promote meaningful learning (Gabriele & Montecinos, 2001; Kumar, Gheen, & Kaplan, 2002; Wentzel & Wigfield, 1998).

Is there any benefit in helping students set performance goals, especially in light of the rewards that today's society offers to those who are driven by achievement? Examples of how society offers rewards for achievement include colleges and universities that emphasize high grades and test scores when considering student applications. Moreover, setting performance goals may help students become better prepared to face the adult world, in which many professions and occupations are competitive in nature.

Although providing students with a realistic view of the world is important, experts recommend that teachers emphasize mastery goals to promote long-term motivation to learn (Church, Elliot, & Gable, 2001; Newman, 1998; Wentzel, 1999). In general, students become motivated to learn when mastery goals are specific, moderately challenging, meaningful, and attainable within a relatively short period of time (Anderman & Maehr, 1994; Erez & Zidon, 1984; Locke & Latham, 2002). Some strategies that teachers can use to promote mastery goals are listed here:

- Focusing on understanding rather than memorizing
- Demonstrating how the knowledge and skills taught are valuable or relevant to students' goals
- Identifying errors as opportunities to learn
- Emphasizing the relationship between effort and success
- Using informational feedback to help students make progress
- Encouraging collaboration with peers to expand students' individual learning
- Focusing on progress rather than performance
- Helping students set specific, proximal, challenging goals

Self-Determination Theory

Self-determination can be defined as the process of deciding how to act in one's environments. According to self-determination theory, teachers can help create two types of learning

environments: autonomy supporting and controlling. In *autonomy-supporting classrooms*, students choose to engage in school activities because they are intrinsically interested whereas in *controlling classrooms*, students comply with school activities to meet external expectations. The difference between these two environments resides in students' perceived sense of autonomy. In autonomy-supporting environments, students are given choices and voices in the classroom; therefore, they choose to complete their assignments because they enjoy the topic, task, or learning the material. Because controlling environments do not take into consideration students' need for autonomy, they are less likely to be intrinsically motivating. For example, a student in a controlling classroom may complete an assignment only to avoid a failing grade or to please his teacher or parents, a case of extrinsic motivation.

Self-determination theory assumes that people have three innate psychological needs: the need for competence, the need for control, and the need for relatedness. When these three needs are satisfied, students become intrinsically motivated to learn. The need for competence explains, for instance, why students are motivated when academic challenges provide them with information about their proficiency and skill (Stipek, 2002). Teachers can help students gain competence by presenting them with informational feedback and genuine praise and criticism. Once students take on a challenge and successfully master the task, their self-efficacy and intrinsic motivation increase, even when they make frequent errors (Covington, 1992; Deci, 1992). Teachers need to keep in mind, however, that challenges will be motivating under the following conditions: the criteria for succeeding are realistic; sufficient scaffolding is offered to achieve success; there are no penalties for errors; the incentives to succeed are greater for challenging tasks than for easier tasks; and students attribute their success to their own ability, strategies, or effort

The second source of intrinsic motivation according to self-determination theory is **autonomy**, which is similar to the idea of having an internal locus of control (Rotter, 1966), the belief that one can change the conditions of the environment. Teachers can help students feel autonomous by giving them choices or soliciting their input. For example, a teacher might ask students to pick a topic of their choice for a writing assignment, have students participate in the process of setting the classroom rules and consequences, and allow students to demonstrate their learning in different formats (e.g., presentation, essay, portfolio). Students' intrinsic motivation increases

when they are given opportunities to take personal responsibility for their learning (Grolnick, Gurland, Jacob, & Decourcey, 2002; Stipek, 2002), such as allowing students to set their own learning goals (deCharms, 1984) and to organize their own experiments in a high school science class (Rainey, 1965).

Finally, according to self-determination theory, students' motivation is promoted when classrooms support their need for relatedness, which is similar to Maslow's (1971) need for belonging. Relatedness affects motivation positively because students are more likely to become engaged in school activities when they believe that their teachers and peers care about them and understand their feelings and thoughts (Furrer & Skinner, 2003). Students who feel a sense of belonging in classrooms report more interest in class work and feel that school is more important than those who feel distanced from their teacher (Goodenow, 1993; Kohn, 2005). In addition, students who view their teachers as being supportive are more likely to develop social responsibility in the classroom (Wentzel, 2002). Teachers who spend time with their students before and after school, helping them with homework and talking to them about personal concerns, promote motivation to learn by nurturing students' need for relatedness.

Self-Efficacy Theory

The likelihood that a student will imitate a modeled behavior depends on the belief that he/she is capable of doing so. This belief is called *self-efficacy*, the judgment that students form about their ability to perform a task from a specific domain or with particular characteristics (Bandura, 1997). Self-efficacy is domain-specific: High self-efficacy in one domain does not engender high self-efficacy in another domain (Smith & Fouad, 1999). For example, a student may feel very efficacious in English but not in athletics. Self-efficacy, therefore, needs to be distinguished from *self-worth* (more commonly called *self-esteem*), which is a global judgment that we make about ourselves as individuals (Pintrich & Schunk, 2002).

There are several factors influencing students' self-efficacy. First is students' past performance (Ackerman, Kyllonen, & Roberts, 1999; Snow, Corno, & Jackson, 1996). Clearly, a history of success with a certain task or domain increases an individual's self efficacy for future

performance. A second factor is modeling (Bandura, 1986). Observing the performance of others increases our expectation of being successful in performing the same task (Kitsantas, Zimmerman, & Cleary, 2000). Although not as powerful, verbal persuasion can also be helpful in increasing students' self-efficacy. For example, when an influential person such as a teacher, parent, or peer expresses confidence in students' future performance, self-efficacy is likely to increase. Finally, self-efficacy beliefs can be affected by physiological and psychological factors (Bandura & Schunk 1981). Students might notice that their hearts race or their palms sweat while performing a task, which may affect how efficacious they feel. Additionally, lack of sleep, anxiety, or fear may act to lower self-efficacy beliefs.

Self-efficacy has a strong influence on students' motivation to learn. For instance, self-efficacy is associated with initial task engagement, persistence, greater flexibility, resistance to negative feedback, and improved performance (Bandura, 1993; Goddard, Hoy, & Hoy, 2000; Pajares, 1996; Pajares & Schunk, 2001; Welch & West, 1995). Compared to students low in self-efficacy, students high in self-efficacy are more likely to accept challenges, control anxiety when goals are not met, discard unproductive strategies, and have an internal locus of control. Therefore, teachers can promote high self-efficacy by encouraging students to engage in specific challenging but attainable goals so that students can build a history of success that will empower them to engage in future tasks (Brophy, 2004). As you recall, this teaching implication is also derived from goal theory and self-determination theory, which stress the importance of fostering students' competence to increase motivation to learn. Socio-cognitive theory predicts that struggling learners (i.e., those who have suffered many academic difficulties and failures) will have low self-efficacy for academics (Henk & Melnick, 1995; Schunk & Zimmerman, 1997; Walker, 2003). This type of learner will need teachers' help the most. Classroom Tips: Promoting Self-Efficacy summarizes a set of strategies that teachers can use to increase struggling students' self-efficacy with corresponding examples (Margolis & McCabe, 2006). Remember that having low self-efficacy is not an unchangeable trait and that teachers have the power to increase the likelihood that struggling learners will become more motivated and successful

Promoting Self-Efficacy : Strategy Examples

Select tasks well within learners' abilities. Ensure that students have the prerequisite knowledge and skills to master new topics and assignments. Sequence tasks from easy to difficult. Break complex skills into manageable components. Show learners how to correct their mistakes.

1. *Frequently link new work to recent successes.* Give learners moderately challenging work they can succeed at if they make moderate effort. Administer brief criterion-based assessments to assess progress. Explicitly show learners how new work resembles past successes and remind them what they did to succeed in the past.

2. *Teach needed learning strategies.* Model and explain strategies in a simple step-by-step fashion.

Provide many guided-practice opportunities with specific feedback about what they are doing right and what needs improvement. Have them practice independently after reaching a mastery level.

3. *Stress peer modeling.* Use peer coping models to show struggling learners that they can also acquire new skills.

Have models explain their actions and correct their mistakes.

4. *Teach students to make positive attributions.* Reinforce effort and persistence.

Help students become aware of their control over learning. Have models verbally attribute failures to controllable factors (e.g., poor effort) and successes to controllable factors (e.g., using a good strategy).

5. *Help students create personally important goals.* Find out struggling learners' goals with an interest inventory.

Help students set short-term, specific, achievable, and meaningful goals.

Relate short-term learning goals to longer-term personal goals.

6. *Incorporate other motivational factors.* Model enthusiasm. Show unconditional positive regard.

Compare students' achievements to their own past achievements rather than to other students' achievements. Encourage cooperative rather than competitive activities. Avoid providing unsolicited help in front of others to reduce the likelihood of sending a "low-ability cue."

Attribution Theory

This cognitive explanation of motivation begins with the assumption that we try to make sense of our own behavior and the behavior of others by searching for explanations and causes. To understand our own successes and failures, particularly unexpected ones, we all ask

"Why?" Students ask themselves. Why did I flunk my midterm?" or "Why did I do so well this grading period?" They may attribute their successes and failures to ability, effort, mood, knowledge, luck help interest, clarity of instructions, the interference of others, unfair policies, and so on. To understand the success and failures of others, we also make attributions that the others are smart or lucky or work hard, for example. Attribution theories of motivation describe how the individual's explanations, justifications, and causes about self or others influence motivation. Bernard Weiner is one of the main educational psychologists responsible for relating attribution theory to school learning (Weiner, 1979, 1986, 1992, 1994, 1994~ 2000; Weiner & Graham, 1989).

According to Weiner, most of the attributed causes for successes or failures can be characterized in terms of three dimensions:

- *Locus* (location of the cause internal or external to the person),
- *Stability* (whether the cause stays the same or can change) and
- *Controllability* (whether the person can control the cause).

Every cause for success or failure can be categorized on these three dimensions. For example, luck is external (locus), unstable (stability), and uncontrollable (controllability). Another cue for the involvement of cognitive factors in bringing motivation comes from the theory of cognitive dissonance advocated by American psychologist Leon Festinger. Cognitive dissonance denotes an imbalance between what we believe (cognition) and what we do (conation). It may result in psychological discomfort to us. As a solution, we are motivated to set the imbalance right either by changing in our beliefs or our behavior. For example, information linking smoking with cancer and heart diseases creates dissonance in chain smokers. They cannot resist the temptation to smoke, even though they are warned that cigarette smoking is injurious to their health. There is, in this situation, an imbalance or dissonance involving the beliefs (cognition) and behavior. The remedy lies in goal directed behavior that is aimed at reducing the dissonance either by

stopping the excessive smoking or by refusing to believe the information about the associated danger.

Behaviorists Theories of Motivation

According to the behaviorists' view, how and why we behave in a particular manner is fashioned by the experiences we receive through the acts of learning or training. Many times our behavior is guided through a simple stimulus-response mechanism as emphasized by Thorndike or operated through the mechanisms of classical or operant conditioning as advocated by Pavlov, Watson and Skinner. The role of reinforcement as a prime factor for the motivation of behavior was properly emphasized in Skinner's Theory of Operant Conditioning. He asserted that an organism behaves in the way and manner in which its behavior shaped through a particular reinforcement schedule.

Moving in the foot prints of Skinner social learning theorists like Albert Bandura (1977) maintained that human motivation is mainly guided through social rewards like praise. Thus a girl often praised for her skill in the kitchen will turn into a very effective cook and a good housewife. According to him the imitation of other's behavior if it results in a reward provides a valuable motivational source for most of us and that is why the concept of modeling is more commonly employed in the world of industry and advertisement

Maslow's Self-actualization Theory

In 1954, Abraham Maslow proposed that a motivational behavior may satisfy many needs at the same time, thus implying that an act is multi-motivated.. He proposed five sets of basic needs that can be arranged in a definite hierarchical order for understanding human motivation.

The physiological needs necessary for survival are at the bottom of the structure while distinctly psychological needs are at the top. Starting from the satisfaction of the physiological needs, every individual strives for the satisfaction of the other needs of a higher order. This striving for one or the other level of needs provides the motivation for his behavior. A need that has been satisfied is no longer a need. It ceases to be a motivating force and, therefore, the satisfaction of one need leads an individual to try for the satisfaction of other needs. in this way the motivational behavior of a person is always dominated not by his satisfied needs but by his unsatisfied wants, desires and needs.

The motivational behavior of most of us fits into the hierarchical structure of needs devised by Maslow and the need of a higher order does not surface until a need of a lower order has been gratified. We can think of the other needs only when the need for food and the other basic physiological needs have been gratified. A hungry person cannot think of casting his vote, doing social service or attaining salvation through remembering God. Similarly, one who is insecure or unsafe may hardly be motivated for the gratification of the need for love or esteem.

But as it happens there is room for exceptions in Maslow's hierarchy of needs to explain human motivation. The history of mankind may point to countless heroes, saints and other great people who always stood up for their ideals, and religious or social values without caring for the satisfaction of biological or other lower needs.

It appears that the effects of the gratification of a need are more stimulating and important than the effects of deprivation. The gratification of needs of the lower order motivates an individual to strive for satisfaction of needs of the higher order. An individual as Maslow emphasized, can actualize his potentialities as a human being only after fulfilling the higher level needs like love and esteem.

However, there may be exceptions to the hierarchical order. One may be more motivated for the satisfaction of one need at the cost of another and therefore a person can reach the top without caring for the satisfaction of needs of the lower order. It is very clear, however that the need of self actualization dominates and rules all the other lower level needs. It seems to be the supreme aim of human life and thus works as a master motive for motivating human behavior. In the words of

Maslow "*A musician must make music, an artist must paint, a poet must write poetry, if he is to be ultimately at peace with himself What a man can be, he must be. He must be true to his own nature. This need we may call self actualization*" (1954). The fulfillment of self-actualization is thus a must for an individual as he will feel discontented and restless unless he strives for what he or she is fitted for.

Implications of Humanistic Theories for Education

Humanistic theories of motivation remind us that students are developing human beings who strive to fulfill many different needs across their life span and that academic motivation must be

examined within a broad context that acknowledges nonacademic needs, drives, and goals (Schunk, 2000).

Importantly, teachers should never assume that all students have had their deficiency needs satisfied appropriately. In fact, a large number of children are not adequately fed or loved in their homes (Noddings, 1992). An additional implication of humanistic theories is that teachers should try to separate students' performance and behaviors from their intrinsic worth and provide all students with unconditional positive regard (Rogers, 1959).

Because teacher preparation programs emphasize the educational mission of schools, it is easy to forget about students' basic needs and focus instead on the academic dimensions of the classroom. Too much of a focus on the need to learn may prevent teachers from realizing that the reason a student is withdrawn or apathetic in the classroom is due not to lack of motivation to learn but rather to unmet needs for food, safety, or physical comfort (Stipek, 2002).

Humanistic theory, therefore, suggests the need to develop strategies to help students fulfill their most basic needs so that they can reach their full academic potential. One way in which schools address this issue is by the free or reduced breakfast and lunch programs. In addition, teachers may help fulfill the need for belongingness and self-esteem by ensuring that students are accepted by their peers in collaborative learning activities (Miserandino, 1996; Nichols, 1996). Once these basic needs are met, teachers can focus on promoting students' motivation to learn. For instance, teachers should model their passion for knowing and understanding by teaching useful knowledge and strategies to help students appreciate the value of these intellectual tools; they should also model their appreciation for aesthetics by introducing students to different art forms (Alexander, 1997). In addition, when given the responsibility of teaching students from diverse backgrounds, teachers' attitudes and practices need to reflect an appreciation of the cultural, linguistic, and social characteristics of each of their students (Sparks, 1994).

6.3 Strategies to Encourage Motivation and Thoughtful Learning

First the classroom must be relatively organized and free from constant interruptions and disruptions. You need to make sure this requirement is met. Second, the teacher must be a patient, supportive person who never embarrasses students for mistakes. Everyone in the class should see mistakes as opportunities for learning (Clifford, 1990, 1991). Third, the work must be challenging but reasonable for work is too easy or too difficult, student will have little motivation to learn. They will focus on finishing, not on learning. Finally, the learning tasks must be authentic.

Once these four basic conditions are met, the influences on students' motivation to learn in a particular situation can be summarized in three questions: Can I succeed at this task? Do I want

to succeed? What do I need to do to succeed? (Eccles & Wigfield, 1995). As reflected in these questions, we want students to have confidence in their ability so they will approach learning with energy and enthusiasm. We want them to see the value of the tasks involved and work to learn, not just try to get the grade or get finished. We want students to believe that success will come when they apply good learning strategies instead of believing that their only option is to use self-defeating, failure avoiding, face-saving strategies. When things get difficult, we want students to stay focused on the task, and not get so worried about failure that they "freeze." The basic requirements and strategies for encouraging student motivation to learn:

Fulfill basic requirements

- Provide an organized class environment.
- Be a supportive teacher.
- Assign challenging, but not too difficult, work.
- Make tasks worthwhile.
- Build confidence and positive expectations.
- Begin work at the students' level.
- Making learning goals clear, specific and attainable
- Stress self-comparison, not competition.
- Model good problem solving show the value of learning
- Tie class activities to the students' interests
- Make the learning task fun
- Make use of novelty and familiarity
- Explain connections between present learning and later Me
- Provide incentives and rewards if needed
- Help students stay focused on the task
- Give students frequent opportunities to respond
- Provide opportunities for students to create a finished product
- Avoid heavy emphasis on grading
- Reduce task risk without oversimplifying the task

Part seven: Classroom Management

7.1. Definition

Classroom management refers to all of the things a teacher does to organize student space, time, and materials to foster student involvement and cooperation in the classroom and to establish a productive working environment. Classroom management is one of the most essential skills to becoming an effective classroom teacher. Teachers who possess the ability to manage their classrooms are able to create an environment where learning is the focus.

7.2. Characteristics of a well-managed classroom

- Students deeply involved in their work Students know what is expected of them
- Students are generally successful
- Little wasted time, disruption, and confusion
- Classroom climate is work oriented, relaxed, and positive

Proactive Classroom Management

Organize the classroom in a way to prevent problems from occurring:

- Structure the classroom
- Post classroom rules
- Have class wide behavior management plan in place from the beginning of the year
- Prepare the lessons to avoid “down-time” and extended periods of independent work

Encouraging Good Behavior: Using Reinforcement Effectively

Students want attention

–Give them attention for good behavior

–Do NOT give them attention for inappropriate behavior

Social Reinforcement

–Praise, Smiles

Material Reinforcement

–Certificates/Notes home, Class party