

**B.Ed. Second Semester**

**Paper Code: BED 102**

## **LEARNING AND TEACHING**

### **UNIT 1**

#### **Learning**

**Learning** is the act of acquiring new, or modifying and reinforcing, existing knowledge, behaviors, skills, values, or preferences and may involve synthesizing different types of information. The ability to learn is possessed by humans, animals, plants and some machines. Progress over time tends to follow learning curve. It does not happen all at once, but builds upon and is shaped by previous knowledge. To that end, learning may be viewed as a process, rather than a collection of factual and procedural knowledge. Learning produces changes in the organism and the changes produced are relatively permanent.

Human learning may occur as part of education, personal development, schooling, or training. It may be goal-oriented and may be aided by motivation. The study of how learning occurs is part of educational psychology, neuropsychology, learning theory, and pedagogy. Learning may occur as a result of habituation or classical conditioning, seen in many animal species, or as a result of more complex activities such as play, seen only in relatively intelligent animals. Learning may occur consciously or without conscious awareness. Learning that an aversive event can't be avoided nor escaped is called learned helplessness. There is evidence for human behavioral learning prenatally, in which habituation has been observed as early as 32 weeks into gestation, indicating that the central nervous system is sufficiently developed and primed for learning and memory to occur very early on in development.

#### **Meaning and Nature**

Learning is a key process in human behavior. All living is learning. If we compare the simple, crude ways in which a child feels and behaves, with the complex modes of adult behaviour, his skills, habits, thought, sentiments and the like- we will know what difference learning has made to the individual.

The individual is constantly interacting with and influenced by the environment. This experience makes him to change or modify his behaviour in order to deal effectively with it. Therefore, learning is a change in behaviour, influenced by previous behaviour. As stated above the skills, knowledge, habits, attitudes, interests and other personality characteristics are all the result of learning.

**Learning is defined** as “any relatively permanent change in behaviour that occurs as a result of practice and experience”.

This definition has three important elements.

- Learning is a change in behaviour—better or worse.
- It is a change that takes place through practice or experience, but changes due to growth or maturation are not learning.
- This change in behaviour must be relatively permanent, and it must last a fairly long time.

All learning involves activities. These activities involve either physical or mental activities. They may be simple mental activities or complex, involving various muscles, bones, etc. So also the mental activities may be very simple involving one or two activities of mind or complex which involve higher mental activities.

### **Importance of Learning**

- Help to understand basic necessities of lifelong learning
- Helps to adapt to new environment
- Helps to become more efficient and helps attain great positions
- Provide deeper knowledge of a subject
- It needs both experience and education

### **Definition of teaching**

Teaching includes all the activities of providing education to other. The person who provides education is called teacher. The teacher uses different method for giving best knowledge to his student's .He tries his best to make understand students. His duty is to encourage students to learn the subjects. **Teaching means interaction of teacher and students. They participate for their mutual benefits. Both have their own objective and target is to achieve them.** Many great teachers of world define teaching in different way and we can say that teaching is just to train the students so that they can stand on their own foot in society. In teaching, three main aspects comes in our front

1st is teacher

2nd is students

3rd is education

### **Nature of teaching**

1. The main character of teaching is to provide guidance and training.
2. Teaching is interaction between teacher and students.
3. Teaching is an art to give knowledge to students with effective way.
4. Teaching is a science to educate fact and causes of different topics of different subjects.
5. Teaching is continues process.
6. Teacher can teach effectively, if he has full confidence on the subject.
7. Teaching encourages students to learn more and more.
8. Teaching is formal as well as informal
9. Teaching is communication of information to students. In teaching, teacher imparts information in interesting way so that students can easily understand the information.
10. Teaching is tool to help student to adjust himself in society and its environment.

### **Importance of teaching**

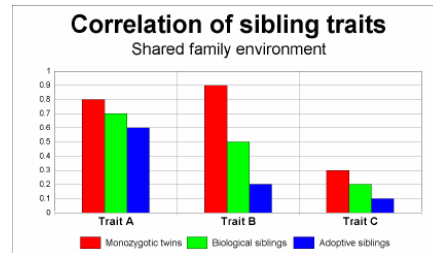
- To create awareness about topics
- To provide knowledge related to content matter
- To create feeling of cooperation through learning by doing
- To establish healthy relationship between teacher and students.
- Help in adjustment in new environment
- Provide opportunities for growth and development.

### **Nature versus nurture**

The phrase **nature and nurture** relates to the relative importance of an individual's innate qualities ("nature" in the sense of nativism or innatism) as compared to an individual's personal experiences ("nurture" in the sense of empiricism or behaviorism) in causing individual differences, especially in behavioral traits.

In their 2014 survey of scientists, many respondents wrote that the dichotomy of nature *versus* nurture has outlived its usefulness, and should be retired. The reason is that in many fields of research, close feedback loops have been found in which "nature" and "nurture" influence one another constantly (as in self-domestication), while in other fields, the dividing line between an inherited and an acquired trait becomes unclear (as in the field of epigenetic or in fetal development).

## Heritability estimates



This chart illustrates three patterns one might see when studying the influence of genes and environment on traits in individuals. Trait A shows a high sibling correlation, but little heritability (i.e. high shared environmental variance  $c^2$ ; low heritability  $h^2$ ). Trait B shows a high heritability since correlation of trait rises sharply with degree of genetic similarity. Trait C shows low heritability, but also low correlations generally; this means Trait C has a high no shared environmental variance  $e^2$ . In other words, the degree to which individuals display Trait C has little to do with either genes or broadly predictable environmental factors—roughly, the outcome approaches random for an individual. Notice also that even identical twins raised in a common family rarely show 100% trait correlation.

It is important to note that the term *heritability* refers only to the degree of genetic variation between people on a trait. It does not refer to the degree to which a trait of a particular individual is due to environmental or genetic factors. The traits of an individual are always a complex interweaving of both. For an individual, even strongly genetically influenced, or "obligate" traits, such as eye color, assume the inputs of a typical environment during ontogenetic development (e.g., certain ranges of temperatures, oxygen levels, etc.).

In contrast, the "heritability index" statistically quantifies the extent to which variation *between individuals* on a trait is due to variation in the genes those individuals carry. In animals where breeding and environments can be controlled experimentally, heritability can be determined relatively easily. Such experiments would be unethical for human research. This problem can be overcome by finding existing populations of humans that reflect the experimental setting the researcher wishes to create.

One way to determine the contribution of genes and environment to a trait is to study twins. In one kind of study, identical twins reared apart are compared to randomly selected pairs of people. The twins share identical genes, but different family environments. In another kind of twin study, identical twins reared together (who share family environment and genes) are compared to fraternal twins reared together (who also share family environment but only share half their genes). Another condition that permits the disassociation of genes and environment is adoption. In one kind of adoption study, biological siblings reared together (who share the same

family environment and half their genes) are compared to adoptive siblings (who share their family environment but none of their genes).

In many cases, it has been found that genes make a substantial contribution, including psychological traits such as intelligence and personality. Yet heritability may differ in other circumstances, for instance environmental deprivation. Examples of low, medium, and high heritability traits include:

<b>Low heritability</b>	<b>Medium heritability</b>	<b>High heritability</b>
Specific language	Weight	Blood type
Specific religion	Religiosity	Eye color

Twin and adoption studies have their methodological limits. For example, both are limited to the range of environments and genes which they sample. Almost all of these studies are conducted in Western, first-world countries, and therefore cannot be extrapolated globally to include poorer, non-western populations. Additionally, both types of studies depend on particular assumptions, such as the equal environments assumption in the case of twin studies, and the lack of pre-adoptive effects in the case of adoption studies.

Since the definition of "nature" in this context is tied to "heritability", the definition of "nurture" has necessarily become very wide, including any type of causality that is not heritable. The term has thus moved away from its original connotation of "cultural influences" to include all effects of the environment, including; indeed, a substantial source of environmental input to human nature may arise from stochastic variations in prenatal development and is thus in no sense of the term "cultural".

### **Interaction of genes and environment**

Heritability refers to the origins of differences between people. Individual development, even of highly heritable traits, such as eye color, depends on a range of environmental factors, from the other genes in the organism, to physical variables such as temperature, oxygen levels etc. during its development or ontogenesis.

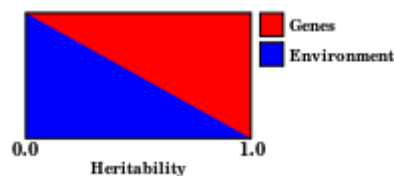
The variability of trait can be meaningfully spoken of as being due in certain proportions to genetic differences ("nature"), or environments ("nurture"). For highly penetrant Mendelian genetic disorders such as Huntington's disease virtually all the incidence of the disease is due to

genetic differences. Huntington's animal models live much longer or shorter lives depending on how they are cared for

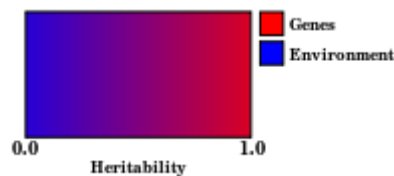
At the other extreme, traits such as native language are environmentally determined: linguists have found that any child (if capable of learning a language at all) can learn any human language with equal facility. With virtually all biological and psychological traits, however, genes and environment work in concert, communicating back and forth to create the individual.

At a molecular level, genes interact with signals from other genes and from the environment. While there are many thousands of single-gene-locus traits, so-called complex traits are due to the additive effects of many (often hundreds) of small gene effects. A good example of this is height, where variance appears to be spread across many hundreds of loci.

Extreme genetic or environmental conditions can predominate in rare circumstances—if a child is born mute due to a genetic mutation, it will not learn to speak any language regardless of the environment; similarly, someone who is practically certain to eventually develop Huntington's disease according to their genotype may die in an unrelated accident (an environmental event) long before the disease will manifest itself.



The "two buckets" view of heritability.



More realistic "homogenous mud pie" view of heritability.

### **Obligate vs. facultative adaptations**

Traits may be considered to be adaptations (such as the umbilical cord), byproducts of adaptations (the belly button) or due to random variation (convex or concave belly button shape). An alternative to contrasting nature and nurture focuses on "obligate vs. facultative" adaptations. Adaptations may be generally more obligate (robust in the face of typical environmental variation) or more facultative (sensitive to typical environmental variation). For example, the

rewarding sweet taste of sugar and the pain of bodily injury are obligate psychological adaptations—typical environmental variability during development does not much affect their operation. On the other hand, facultative adaptations are somewhat like "if-then" statements. An example of a facultative psychological adaptation may be adult attachment style. The attachment style of adults, (for example, a "secure attachment style," the propensity to develop close, trusting bonds with others) is proposed to be conditional on whether an individual's early childhood caregivers could be trusted to provide reliable assistance and attention. An example of a facultative physiological adaptation is tanning of skin on exposure to sunlight (to prevent skin damage).

### **Heritability of intelligence**

Evidence suggests that family environmental factors may have an effect upon childhood IQ, accounting for up to a quarter of the variance. The American Psychological Association's report "Intelligence: Known's and Unknowns" (1995) states that there is no doubt that normal child development requires a certain minimum level of responsible care. Here, environment is playing a role in what is believed to be fully genetic (intelligence) but it was found that severely deprived, neglectful, or abusive environments have highly negative effects on many aspects of children's intellect development. Beyond that minimum, however, the role of family experience is in serious dispute. On the other hand, by late adolescence this correlation disappears, such that adoptive siblings no longer have similar IQ scores.

### **Growth**

1. These are the series of physical changes that occur from conception through maturity.
2. The term for the development of any entity toward its mature state.

**Growth** refers to a positive change in size, and/or maturation, often over a period of time. Growth can occur as a stage of maturation or a process toward fullness or fulfillment. It can also perpetuate endlessly, for example, as detailed by some theories of the ultimate fate of the universe.

The quantity can be:

- Physical (e.g., growth in height, growth in an amount of money)
- Abstract (e.g., a system becoming more complex, an organism becoming more mature)

It can also refer to the mode of growth, i.e. numeric models for describing how much a particular quantity grows over time.



## Maturity

Maturity also encompasses being aware of the correct time and place to behave and knowing when to act, according to the circumstances and the culture of the society one lives in. Adult development and maturity theories include the purpose in life concept, in which maturity emphasizes a clear comprehension of life's purpose, directedness, and intentionality, which contributes to the feeling that life is meaningful.

## Relationship between development and learning

1. The effect of effort to learn depends upon the development.
2. Development takes place only when learning occurs.
3. Learning in itself is an overall development of a child.
4. Each individual is different from another so development and learning occurs accordingly.
5. Environmental factor effect in the learning process of a child which leads to development.
6. Development helps in the cognitive aspect which reflects the level of learning.

## Developmental Influences

- **Physical**-Physical growth in stature and weight occurs over the 15–20 years following birth, as the individual changes from the average weight of 3.5 kg and length of 50 cm at full term birth to full adult size. As stature and weight increase, the individual's proportions also change, from the relatively large head and small torso and limbs of the neonate, to the adult's relatively small head and long torso and limbs. The child's pattern of growth is in a head-to-toe direction, or cephalocaudal, and in an inward to outward pattern (center of the body to the peripheral) called proximodistal.
- **Socio-cultural**-Newborn infants do not seem to experience fear or have preferences for contact with any specific people. In the first few months they only experience happiness, sadness, and anger. A baby's first smile usually occurs between 6 and 10 weeks. It is called a 'social smile' because it usually occurs during social interactions. By about 8–12 months, they go through a fairly rapid change and become fearful of perceived threats; they also begin to prefer familiar people and show anxiety and distress when separated from them or approached by strangers.
- **Economic- adequate income** – family income should not be a barrier to positive childhood development, and support mechanisms should be in place for all children to have a good start in life.
- **Ecological**- The development of children and young people and their subsequent life chances in adulthood are the product of a complex set of interacting factors, at individual,



family and community levels. An ecological framework is used to examine the mutual influences between the different systems that are important during childhood.

- **Technological- Technology** refers to cyclical co-dependence, co-influence, co-production of technology and society upon the other (technology upon culture, and vice versa). This synergistic relationship occurred from the dawn of humankind, with the invention of simple tools and continues into modern technologies such as the printing press and computers. The academic discipline studying the impacts of science, technology, and society, and vice versa, is called science and technology studies.

### **Dimensions of Individual Development**

"Development", i.e. change over time in an evolving branch of the primate family. Psychologists most often use the term "development" and "developmental" to refer to changes in an organism from birth to adulthood.

**Cognitive development** includes the following capacities:

- Control of vocalization in modern humans
- Extreme brain lateralization (asymmetry). Monkeys have even more brain symmetry than apes, although lateralization is present.
- Recognition of group-member vs. non-group-member.
- Self-awareness: some idea of the self as a distinct individual, and self-recognition (recognizing self in mirror as distinct from nonspecific's) (these are apparently pre-hominid capacities). Was there a more recent development in self-awareness? Increasing degree thereof?
- Recognition of specific individuals within a group of proximate; development of other recognition channels besides smell: via visual physical characteristics and especially, facial recognition.
- Increasingly powerful memory, making possible the ability to store large numbers of cognitive categories, and later, symbols, i.e. cognitive categories associatively linked with some consistent form of expression.
- Increasing complexity of intentional planned goal-directed behavior, involving more complex sequences to reach final goal.

**Social development** includes:

- An individual's recognition of others as selves like him or her; understanding of the possibility of a distinct viewpoint different from one's own. This is what philosophers call a theory of mind.

- Empathy with social proximates. Development of degrees of empathy with degrees of social proximity (the **empathy hierarchy**)
- Development of another kind of increasingly complex interactional skills.
- Learned patterns of communicative behavior
- Communications that are representative (descriptive), not just manipulative (imperative).
- Social transmission of learned communicative behaviors (e.g. use of symbols) to young of the species (not by active teaching but by the young observing, imitating, generalizing)

**Physical development includes:**

- Development of motor musculature for new bipedal gait.
- Increasing size of brain pan and brain inside it
- Development of motor musculature for throwing, aiming
- Development of motor musculature for finely sequenced manual control, which can underlie (1) tool-making and (2) gesture
- Development of motor musculature in the vocal tract that goes with the neural circuitry involved in controlling that musculature.
- Modification of the vocal tract and pharynx so that an appropriately resonant chamber is present for speech sounds of sufficient discriminability
- Development of genes controlling the prenatal and postnatal development of some of the skills

**Affective Development-** Emotional development is the emergence of a child's experience, expression, understanding, and regulation of emotions from birth through late adolescence. It also comprises how growth and changes in these processes concerning emotions occur. Emotional development does not occur in isolation; neural, cognitive, and behavioral development interact with emotional development and social and cultural influences, and context also play a role. Various emotional development theories are proposed, but there is general agreement on age-related milestones in emotional development.

**Moral Development- Moral development** focuses on the emergence, change, and understanding of morality from infancy through adulthood. In the field of moral development, morality is defined as principles for how individuals ought to treat one another, with respect to justice, others' welfare, and rights. In order to investigate how individuals understand morality, it is essential to measure their beliefs, emotions, attitudes, and behaviors that contribute to moral understanding. The field of moral development studies the role of peers and parents in facilitating moral development, the role of conscience and values, socialization and cultural

influences, empathy and altruism, and positive development. The interest in morality spans many disciplines (e.g., philosophy, economics, biology, and political science) and specializations within psychology (e.g., social, cognitive, and cultural). Moral developmental psychology research focuses on questions of origins and change in morality across the lifespan.

### **Erikson's stages of psychosocial development**

**Erikson's stages of psychosocial development**, as articulated by Erik Erikson, is a comprehensive psychoanalytic theory that identifies a series of eight stages, in which a healthy developing individual should pass through from infancy to late adulthood. All stages are present at birth but only begin to unfold according to both a natural scheme and ones ecological and cultural upbringing. In each stage, the person confronts, and hopefully masters, new challenges. Each stage builds upon the successful completion of earlier stages. The challenges of stages not successfully completed may be expected to reappear as problems in the future.

#### **Stages**

<b>Approximate Age</b>	<b>Virtues</b>	<b>Psychosocial crisis</b>	<b>Significant relationship</b>	<b>Existential question</b>	<b>Examples</b>
Infancy 0-2 years	Hope	Basic trust vs. mistrust	Mother	Can I trust the world?	Feeding, abandonment
Early childhood 2-4 years	Will	Autonomy vs. shame and doubt	Parents	Is it okay to be me?	Toilet training, clothing themselves
Preschool age 4-5 years	Purpose	Initiative vs. guilt	Family	Is it okay for me to do, move, and act?	Exploring, using tools or making art
School age 5-12 years	Competence	Industry vs. inferiority	Neighbors, school	Can I make it in the world of people and things?	School, sports
Adolescence 13-19 years	Fidelity	Identity vs. confusion	role Peers, model	role Who am I? Who can I be?	Social relationships
Early	Love	Intimacy vs. isolation	vs. Friends,	Can I love?	Romantic

adulthood		isolation	partners	relationships
20–39 years				
Adulthood	Care	Generativity vs. Household, stagnation	workmates	Can I make my Work, life count? parenthood
40–64 years				
Maturity	Wisdom	Ego integrity vs. Mankind, despair	kind	my Is it okay to have Reflection on been me? life
65-death				

**Piaget's theory of cognitive development** is a comprehensive theory about the nature and development of human intelligence. Piaget believed that one's childhood plays a vital and active role in a person's development. Piaget's idea is primarily known as a developmental stage theory. The theory deals with the nature of knowledge itself and how humans gradually come to acquire, construct, and use it. To Piaget, cognitive development was a progressive reorganization of mental processes resulting from biological maturation and environmental experience. He believed that children construct an understanding of the world around them, experience discrepancies between what they already know and what they discover in their environment, then adjust their ideas accordingly.

### Assimilation and accommodation

**Assimilation** is how humans perceive and adapt to new information. It is the process of fitting new information into pre-existing cognitive schemas. **Assimilation** in which new experiences are reinterpreted to fit into, or assimilate with, old ideas. It occurs when humans are faced with new or unfamiliar information and refer to previously learned information in order to make sense of it. In contrast, **accommodation** is the process of taking new information in one's environment and altering pre-existing schemas in order to fit in the new information. This happens when the existing schema (knowledge) does not work, and needs to be changed to deal with a new object or situation. Accommodation is imperative because it is how people will continue to interpret new concepts, schemas, frameworks, and more. Piaget believed that the human brain has been programmed through evolution to bring equilibrium, which is what he believed ultimately influences structures by the internal and external processes through assimilation and accommodation.

### Sensory motor stage

Cognitive development is Jean Piaget's theory. Through a series of stages, Piaget proposed four stages of cognitive development: the Sensory motor, **preoperational**, **concrete operational** and **formal operational period**. The Sensory motor **stage** is the first of the four stages in cognitive

development which "extends from birth to the acquisition of language". In this stage, infants progressively construct knowledge and understanding of the world by coordinating experiences (such as vision and hearing) with physical interactions with objects (such as grasping, sucking, and stepping).

### **Pre-operational stage**

Piaget's second stage, the pre-operational stage, starts when the child begins to learn to speak at age two and lasts up until the age of seven. During the Pre-operational Stage of cognitive development, Piaget noted that children do not yet understand concrete logic and cannot mentally manipulate information. Children's increase in playing and pretending takes place in this stage. However, the child still has trouble seeing things from different points of view. The children's play is mainly categorized by symbolic play and manipulating symbols. Such play is demonstrated by the idea of checkers being snacks, pieces of paper being plates, and a box being a table. Their observations of symbols exemplify the idea of play with the absence of the actual objects involved. By observing sequences of play, Piaget was able to demonstrate that, towards the end of the second year, a qualitatively new kind of psychological functioning occurs, known as the Pre-operational Stage.

### **Concrete operational stage**

The **concrete operational stage** is the third stage of Piaget's theory of cognitive development. This stage, which follows the preoperational stage, occurs between the ages of 7 and 11 (preadolescence) years, and is characterized by the appropriate use of logic. During this stage, a child's thought processes become more mature and "adult like". They start solving problems in a more logical fashion. Abstract, hypothetical thinking is not yet developed in the child, and children can only solve problems that apply to concrete events or objects. At this stage, the children undergo a transition where the child learns rules such as conservation. Piaget determined that children are able to incorporate Inductive reasoning. Inductive reasoning involves drawing inferences from observations in order to make a generalization. In contrast, children struggle with deductive reasoning, which involves using a generalized principle in order to try to predict the outcome of an event. Children in this stage commonly experience difficulties with figuring out logic in their heads. For example, a child will understand that "A is more than B" and "B is more than C". However, when asked "is A more than C?", the child might not be able to logically figure the question out in their heads.

### **Formal operational stage**

The final stage is known as the **formal operational stage** (adolescence and into adulthood, roughly ages 11 to approximately 15-20): Intelligence is demonstrated through the logical use of

symbols related to abstract concepts. This form of thought includes "assumptions that have no necessary relation to reality." At this point, the person is capable of hypothetical and deductive reasoning. During this time, people develop the ability to think about abstract concepts.

Piaget stated that "hypothetic" becomes important during the formal operational stage. This type of thinking involves hypothetical "what-if" situations that are not always rooted in reality, i.e. counterfactual thinking. It is often required in science and mathematics.

- Abstract thought emerges during the formal operational stage. Children tend to think very concretely and specifically in earlier stages, and begin to consider possible outcomes and consequences of actions.
- Metacognition, the capacity for "thinking about thinking" that allows adolescents and adults to reason about their thought processes and monitors them.
- Problem-solving is demonstrated when children use trial-and-error to solve problems. The ability to systematically solve a problem in a logical and methodical way emerges.

### **KOHLBERG'S STAGES OF MORAL DEVELOPMENT**

- Lawrence Kohlberg was a moral philosopher and student of child development. He was director of Harvard's Center for Moral Education. His special area of interest is the moral development of children - how they develop a sense of right, wrong, and justice.
- Kohlberg observed that growing children advance through definite stages of moral development in a manner similar to their progression through Piaget's well-known stages of cognitive development. His observations and testing of children and adults, led him to theorize that human beings progress consecutively from one stage to the next in an invariant sequence, not skipping any stage or going back to any previous stage. These are stages of thought processing, implying qualitatively different modes of thinking and of problem solving at each stage.

### **PREMORAL OR PRECONVENTIONAL STAGES:**

**FOCUS:** Self

**AGES:** Up to 10-13 years of age, most prisoners

Behavior motivated by anticipation of pleasure or pain.

### **STAGE 1: PUNISHMENT AND OBEDIENCE:**

Avoidance of physical punishment and deference to power. Punishment is an automatic response of physical retaliation. The immediate physical consequences of an action



determine its goodness or badness. The atrocities carried out by soldiers during the holocaust who were simply "carrying out orders" under threat of punishment, illustrate that adults as well as children may function at stage one level.

### **STAGE 2: INSTRUMENTAL EXCHANGE: *The Egoist***

Marketplace exchange of favors or blows. "You scratch my back, I'll scratch yours." Justice is: "Do unto others as they do unto you." Individual does what is necessary, makes concessions only as necessary to satisfy his own desires. Right action consists of what instrumentally satisfies one's own needs. Vengeance is considered a moral duty. People are valued in terms of their utility.

### **B. CONVENTIONAL MORALITY:**

**FOCUS:** Significant others,

**AGES:** Beginning in middle school, up to middle age - most people end up here

Acceptance of the rules and standards of one's group.

### **STAGE 3: INTERPERSONAL (TRIBAL) CONFORMITY:**

Right is conformity to the stereotypical behavioral, values expectations of one's society or peers. Individual acts to gain approval of others. Good behavior is that which pleases or helps others within the group. Everybody is doing it." Majority understanding ("common sense") is seen as "natural."

### **STAGE 4: LAW AND ORDER (SOCIETAL CONFORMITY): *The Good Citizen***

Respect for fixed rules, laws and properly constituted authority. Defense of the given social and institutional order for its own sake. Responsibility toward the welfare of others in the society. "Justice" normally refers to criminal justice. Justice demands that the wrongdoer be punished, that he "pay his debt to society," and that law abiders be rewarded. "A good day's pay for a good day's work." Injustice is failing to reward work or punish demerit.

### **STAGE 5: PRIOR RIGHTS AND SOCIAL CONTRACT:**

Moral action in a specific situation is not defined by reference to a checklist of rules, but from logical application of universal, abstract, moral principles. Individuals have natural or inalienable rights and liberties that are prior to society and must be protected by society. Retributive justice is repudiated as counterproductive, volatile of notions of human rights.



## STAGE 6: UNIVERSAL ETHICAL PRINCIPLES:

An individual who reaches this stage acts out of universal principles based upon the equality and worth of all living beings. Persons are never means to an end, but are ends in themselves. Having rights means more than individual liberties. It means that every individual is due consideration of his dignity interests in every situation, those interests being of equal importance with one's own.

### Key Cognitive Processes

**Cognitive psychology** is the study of mental processes such as "attention, language use, memory, perception, problem solving, creativity, and thinking." Much of the work derived from cognitive psychology has been integrated into various other modern disciplines of psychological study, including educational psychology, social psychology, personality psychology, abnormal psychology, developmental psychology, and economics.

- **Perception- Perception** (from the Latin *perceptio*, *percipio*) is the organization, identification, and interpretation of sensory information in order to represent and understand the environment. All perception involves signals in the nervous system, which in turn result from physical or chemical stimulation of the sense organs. For example, vision involves light striking the retina of the eye, smell is mediated by odor molecules, and hearing involves pressure waves. Perception is not the passive receipt of these signals, but is shaped by learning, memory, expectation, and attention. Perception can be split into two processes Firstly processing sensory input which transforms this low-level information to higher-level information (e.g., extracts shapes for object recognition). Secondly processing which is connected with person's concept and expectations (knowledge), and selective mechanisms (attention) that influence perception.
  - Perception depends on complex functions of the nervous system, but subjectively seems mostly effortless because this processing happens outside conscious awareness.
- **Attention- Attention** is the behavioral and cognitive process of selectively concentrating on a discrete aspect of information, whether deemed subjective or objective, while ignoring other perceivable information. Attention has also been referred to as the allocation of limited processing resources. Attention remains a major area of investigation within education, psychology, neuroscience, cognitive neuroscience, and neuropsychology. Areas of active investigation involve determining the source of the sensory cues and signals that generate attention, the effects of these sensory cues and signals on the tuning properties of sensory neurons, and the relationship between attention and other behavioral and cognitive processes like working memory and vigilance. A relatively new body of research, which expands upon earlier research within

neuropsychology, is investigating the diagnostic symptoms associated with traumatic brain injuries and their effects on attention. Attention also varies across cultures.

- **Memory-** In psychology, **memory** is the process in which information is encoded, stored, and retrieved. Encoding allows information from the outside world to be sensed in the form of chemical and physical stimuli. In the first stage the information must be changed so that it may be put into the encoding process. Storage is the second memory stage or process. This entails that information is maintained over short periods of time. Finally the third process is the retrieval of information that has been stored. Such information must be located and returned to the consciousness. Some retrieval attempts may be effortless due to the type of information, and other attempts to remember stored information may be more demanding for various reasons.
- From an information processing perspective there are three main stages in the formation and retrieval of memory:
  - *Encoding* or registration: receiving, processing and combining of received information
  - *Storage*: creation of a permanent record of the encoded information in short term or long term memory
  - *Retrieval, recall* or *recollection*: calling back the stored information in response to some cue for use in a process or activity.
- **Language-** Psychologists have had an interest in the cognitive processes involved with language that dates back to the 1870s, when Carl Wernicke proposed a model for the mental processing of language. Current work on language within the field of cognitive psychology varies widely. Cognitive psychologists may study language acquisition, individual components of language formation (like phonemes), how language use is involved in mood, or numerous other related areas.
- **Thinking- Thought** can refer to the ideas or arrangements of ideas that result from thinking, the act of producing thoughts, or the process of producing thoughts. Although thought is a fundamental human activity familiar to everyone, there is no generally accepted agreement as to what thought is or how it is created. Somehow, thoughts arise in the mind from the product of subconscious brain processing. Because thought underlies many human actions and interactions, understanding its physical and metaphysical origins, processes, and effects has been a longstanding goal of many academic disciplines including psychology, neuroscience, philosophy, artificial intelligence, biology, sociology and cognitive science.
- Thinking allows humans to make sense of, interpret, represent or model the world they experience, and to make predictions about that world. It is therefore helpful to an organism with needs, objectives, and desires as it makes plans or otherwise attempts to accomplish those goals.
- **Problem Solving**

- **Emotions- Emotion** is, in everyday speech, a person's state of feeling in the sense of an affect. Scientific discourse has drifted to other meanings and there is no consensus on a definition. Emotion is often intertwined with mood, temperament, personality, disposition, and motivation. In some theories, cognition is an important aspect of emotion. Those acting primarily on emotion may seem as if they are not thinking, but mental processes are still essential, particularly in the interpretation of events. For example, the realization of danger and subsequent arousal of the nervous system (e.g. rapid heartbeat and breathing, sweating, muscle tension) is integral to the experience of fear. Other theories, however, claim that emotion is separate from and can precede cognition.
- **Motivation-** Motivation is literally the desire to do things. It's the difference between waking up before dawn to pound the pavement and lazing around the house all day. It's the crucial element in setting and attaining goals—and research shows you can influence your own levels of motivation and self-control. So figure out what you want, power through the pain period, and start being who you want to be. **Motivation** is a theoretical construct used to explain behavior. It represents the reasons for people's actions, desires, and needs. Motivation can also be defined as one's direction to behavior, or what causes a person to want to repeat a behavior and vice versa. Motive is what prompts the person to act in a certain way, or at least develop an inclination for specific behavior.

### Stages of development

- Erikson's stages of psychosocial development, as articulated by Erik Erikson, explain eight stages through which a healthily developing human should pass from infancy to late adulthood
- Kohlberg's stages of moral development
- Loevinger's stages of ego development, 'conceptualize a theory of ego development that was based on Erikson's psychosocial model', as well as on the works of Harry Stack Sullivan, and in which 'the ego was theorized to mature and evolve through stages across the lifespan as a result of a dynamic interaction between the inner self and the outer environment'
- Piaget's theory of cognitive development, a comprehensive theory about the nature and development of human intelligence, first developed by Jean Piaget
- Neo-Piagetian theories of cognitive development, theory of cognitive development has been criticized on many grounds
- Psychosexual development, a central element of the psychoanalytic sexual drive theory, that human beings, from birth, possess an instinctual libido (sexual energy) that develops in five stages
- Model of hierarchical complexity, a framework for scoring how complex a behavior is

- Maslow's hierarchy of needs, a theory in psychology proposed by Abraham Maslow in his 1943 paper "A Theory of Human Motivation"

## **UNIT 2**

### **Approaches to Learning**

#### **Behaviorist Learning Theory**

Behaviorism is an approach to psychology based on the proposition that behavior can be researched scientifically without recourse to inner mental states. It is a form of materialism, denying any independent significance for mind. Its significance for psychological treatment has been profound, making it one of the pillars of pharmacological therapy. One of the assumptions of behaviorist thought is that free will is illusory, and that all behavior is determined by the environment either through association or reinforcement.

The behaviorist school of thought ran concurrent with the psychoanalysis movement in psychology in the 20th century. Its main influences were Ivan Pavlov, who investigated classical conditioning, John B. Watson (1878-1958) who rejected introspective methods and sought to restrict psychology to experimental laboratory methods. B.F. Skinner sought to give ethical grounding to behaviorism, relating it to pragmatism.

- Classical: The behaviorism of Watson; the objective study of behavior; no mental life, no internal states; thought is covert speech.
- Methodological: The objective study of third-person behavior; the data of psychology must be inter-subjectively verifiable; no theoretical prescriptions. Has been absorbed into general experimental and cognitive psychology. Two popular subtypes are Neo-Hullian and post-Hullian, theoretical, group data, not dynamic, physiological, and Purposive: Tolman's behavioristic anticipation of cognitive psychology.
- Radical: Skinnerian behaviorism; includes behavioral approach to 'mental life;' not mechanistic; internal states not permitted.
- Teleological: Post-Skinnerian, purposive, close to microeconomics. Theoretical: Post-Skinnerian, accepts internal states (the skin makes a difference); dynamic, but eclectic in choice of theoretical structures, emphasizes parsimony.

#### **Cognitive Approach**

Cognition refers to mental activity including thinking, remembering, learning and using language. When we apply a cognitive approach to learning and teaching, we focus on the understanding of information and concepts. If we are able to understand the connections between

concepts break down information and rebuild with logical connections, then our retention of material and understanding will increase.

When we are aware of these mental actions, monitor them and control our learning processes it is called Thinking, which varies from situation to situation, will greatly affect how individuals behave in a given situation. Understanding of language, or psycholinguistics, is essential to our understanding of print and oral acquisition of knowledge. *Comprehension and perception* will allow individuals to interpret information. Lastly, the overall

### **Humanistic Approach**

Humanistic "theories" of learning tend to be highly value-driven and hence more like **prescriptions** (about what ought to happen) rather than **descriptions** (of what does happen).

- They emphasize the "natural desire" of everyone to learn. Whether this natural desire is to learn whatever it is you are teaching, however, is not clear.
- It follows from this, they maintain, that learners need to be empowered and to have control over the learning process.
- So the teacher relinquishes a great deal of authority and becomes a facilitator.

The school is particularly associated with

- Carl Rogers, and
- Abraham Maslow (psychologists),
- John Holt (child education) and
- Malcolm Knowles (adult education and proponent of andragogy).
- Insofar as he emphasizes experiential learning, one could also include Kolb among the humanists as well as the cognitive theorists.

### **Social Constructivist Approach**

There is a great deal of overlap between cognitive constructivism and Vygotsky's social constructivist theory. However, Vygotsky's constructivist theory, which is often called social constructivism, has much more room for an active, involved teacher. For Vygotsky the culture gives the child the cognitive tools needed for development. The type and quality of those tools determines, to a much greater extent than they do in Piaget's theory, the pattern and rate of

development. Adults such as parents and teachers are conduits for the tools of the culture, including language. The tools the culture provides a child include cultural history, social context, and language.

## Implications

1. Learning and development is a social, collaborative activity.
2. The Zone of Proximal Development can serve as a guide for curricular and lesson planning.
3. School learning should occur in a meaningful context and not be separated from learning and knowledge children develop in the "real world".
4. Out-of-school experiences should be related to the child's school experience.

## Examples of Social Constructivist Classroom Activities



Reading/ Writing Workshop



Whole Language



Situated Learning



Collaborative Learning



Anchored Instruction



Games, Simulations,  
Case-Based Instruction,  
Problem-Solving

## The Information Processing Approach to Cognition

### General principles



The first is the **assumption of a limited capacity** of the mental system. This means that the amount of information that can be processed by the system is constrained in some very important ways. Bottlenecks, or restrictions in the flow and processing of information, occur at very specific points.

A second principle is that a **control mechanism is required** to oversee the encoding, transformation, processing, storage, retrieval and utilization of information. That is, not all of the processing capacity of the system is available; an executive function that oversees this process will use up some of this capability. When one is learning a new task or is confronted with a new environment, the executive function requires more processing power than when one is doing a routine task or is in a familiar environment.

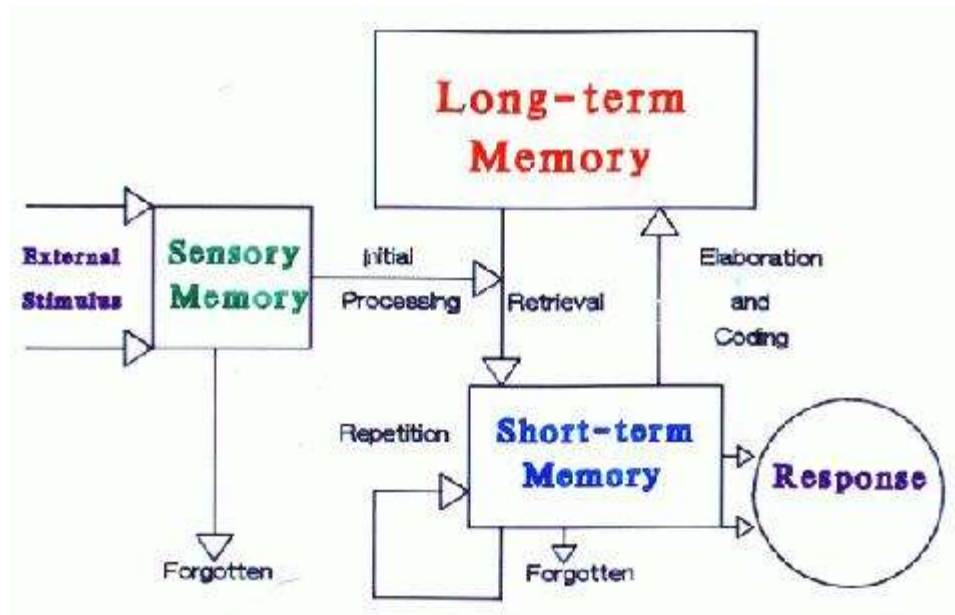
A third principle is that there is a **two-way flow of information** as we try to make sense of the world around us. We constantly use information that we gather through the senses (often referred to as bottom-up processing) and information we have stored in memory (often called top-down processing) in a dynamic process as we construct meaning about our environment and our relations to it. This is somewhat analogous to the difference between inductive reasoning (going from specific instances to a general conclusion) and deductive reasoning (going from a general principle to specific examples.) A similar distinction can be made between using information we derive from the senses and that generated by our imaginations.

A fourth principle generally accepted by cognitive psychologists is that the human organism has been **genetically prepared to process and organize information in specific ways**. For example, a human infant is more likely to look at a human face than any other stimulus. Given that the field of focus of a human infant is 12 to 18 inches, one can surmise that this is an important aspect of the infant's survival. Other research has discovered additional biological predispositions to process information.

### **Stage Model of Information Processing**

One of the major issues in cognitive psychology is the study of memory. The dominant view is labeled the "stage theory" and is based on the work of Atkinson and Shiffrin (1968).





This model proposes that information is processed and stored in 3 stages.

**Sensory memory** (STSS). Sensory memory is affiliated with the transduction of energy (change from one energy from to another). The environment makes available a variety of sources of information (light, sound, smell, heat, cold, etc.), but the brain only understands electrical energy. The body has special sensory receptor cells that transducer (change from one form of energy to another) this external energy to something the brain can understand. In the process of transduction, a memory is created. This memory is very short (less than 1/2 second for vision; about 3 seconds for hearing).

It is absolutely critical that the learner attend to the information at this initial stage in order to transfer it to the next one. There are two major concepts for getting information into STM:

First, individuals are more likely to pay attention to a stimulus if it has an **interesting feature**. We are more likely to get an orienting response if this is present.

Second, individuals are more likely to pay attention if the stimulus activates a **known pattern**. To the extent we have students call to mind relevant prior learning before we begin our presentations; we can take advantage of this principle.

**Short-term memory** (STM). Short-term memory is also called working memory and relates to what we are thinking about at any given moment in time. In Freudian terms, this is conscious memory. It is created by our paying attention to an external stimulus, an internal thought, or both. It will initially last somewhere around 15 to 20 seconds unless it is repeated (called

maintenance rehearsal) at which point it may be available for up to 20 minutes. The hypothalamus is a brain structure thought to be involved in this shallow processing of information. The frontal lobes of the cerebral cortex are the structure associated with working memory. For example, you are processing the words you read on the screen in your frontal lobes. However, if I ask, "What is your telephone number?" your brain immediately calls that from long-term memory and replaces what was previously there.

Another major limit on information processing in STM is in terms of the number of units that can be processed at any one time. Miller (1956) gave the number as  $7 \pm 2$ , but more recent research suggests the number may be more like  $5 \pm 2$  for most things we are trying to remember. Because of the variability in how much individuals can work with (for some it may be three, for others seven) it is necessary to **point out important information**. If some students can only process three units of information at a time, let us make certain it is the most important three.

There are two major concepts for retaining information in STM: organization and repetition. There are four major types of organization that are most often used in instructional design:

- Component (part/whole)--classification by category or concept (e.g., the components of the teaching/learning model);
- Sequential -- chronological; cause/effect; building to climax (e.g., baking a cake, reporting on a research study);
- Relevance -- central unifying idea or criteria (e.g., most important principles of learning for boys and girls, appropriate management strategies for middle school and high school students);
- Transitional (connective) -- relational words or phrases used to indicate qualitative change over time (e.g., stages in Piaget's theory of cognitive development or Erikson's stages of socioemotional development)

A related issue to organization is the concept of chunking or grouping pieces of data into units. For example, the letters "b d e" constitute three units of information while the word "bed" represents one unit even though it is composed of the same number of letters. Chunking is a major technique for getting and keeping information in short-term memory; it is also a type of elaboration that will help get information into long-term memory.

Repetition or rote rehearsal is a technique we all use to try to "learn" something. However, in order to be effective this must be done after forgetting begins. Researchers advise that the learner should not repeat immediately the content (or skill), but wait a few minutes and then repeat. For the most part, simply memorizing something does not lead to learning (i.e., relatively permanent change). We all have anecdotal evidence that we can remember something we memorized (a

poem for example), but just think about all the material we tried to learn this way and the little we are able to remember after six months or a year.

**Long-term memory (LTM).** Long-term memory is also called preconscious and unconscious memory in Freudian terms. Preconscious means that the information is relatively easily recalled (although it may take several minutes or even hours) while unconscious refers to data that is not available during normal consciousness. It is preconscious memory that is the focus of cognitive psychology as it relates to long-term memory. The levels-of-processing theory, however, has provided some research that attests to the fact that we "know" more than we can easily recall. The two processes most likely to move information into long-term memory are elaboration and distributed practice (referred to as periodic review in the direct instruction model).

There are several examples of elaboration that are commonly used in the teaching/learning process:

- imaging -- creating a mental picture;
- method of loci (locations)--ideas or things to be remembered are connected to objects located in a familiar location;
- pegword method (number, rhyming schemes)--ideas or things to be remembered are connected to specific words (e.g., one-bun, two-shoe, three-tree, etc.)
- Rhyming (songs, phrases)--information to be remembered is arranged in a rhyme (e.g., 30 days hath September, April, June, and November, etc.)
- Initial letter--the first letter of each word in a list is used to make a sentence (the sillier, the better).

USING THE INFORMATION PROCESSING APPROACH IN THE CLASSROOM	
Principle	Example
1. Gain the students' attention.	<ul style="list-style-type: none"> <li>• Use cues to signal when you are ready to begin.</li> <li>• Move around the room and use voice inflections.</li> </ul>
2. Bring to mind relevant prior learning.	<ul style="list-style-type: none"> <li>• Review previous day's lesson.</li> <li>• Have a discussion about previously covered content.</li> </ul>
3. Point out important information.	<ul style="list-style-type: none"> <li>• Provide handouts.</li> <li>• Write on the board or use transparencies.</li> </ul>
4. Present information in an	<ul style="list-style-type: none"> <li>• Show a logical sequence to concepts and skills.</li> </ul>

organized manner.	<ul style="list-style-type: none"> <li>Go from simple to complex when presenting new material.</li> </ul>
5. Show students how to categorize (chunk) related information.	<ul style="list-style-type: none"> <li>Present information in categories.</li> <li>Teach inductive reasoning.</li> </ul>
6. Provide opportunities for students to elaborate on new information.	<ul style="list-style-type: none"> <li>Connect new information to something already known.</li> <li>Look for similarities and differences among concepts.</li> </ul>
7. Show students how to use coding when memorizing lists.	<ul style="list-style-type: none"> <li>Make up silly sentence with first letter of each word in the list.</li> <li>Use mental imagery techniques such as the keyword method.</li> </ul>
8. Provide for repetition of learning.	<ul style="list-style-type: none"> <li>State important principles several times in different ways during presentation of information (STM).</li> <li>Have items on each day's lesson from previous lesson (LTM).</li> <li>Schedule periodic reviews of previously learned concepts and skills (LTM).</li> </ul>
9. Provide opportunities for over learning of fundamental concepts and skills.	<ul style="list-style-type: none"> <li>Use daily drills for arithmetic facts.</li> <li>Play form of trivial pursuit with content related to class.</li> </ul>

## Theories of Learning

### Connectionism (Edward Thorndike)

The learning theory of Thorndike represents the original S-R framework of behavioral psychology: Learning is the result of associations forming between stimuli and responses. Such associations or "habits" become strengthened or weakened by the nature and frequency of the S-R pairings. The paradigm for S-R theory was trial and error learning in which certain responses come to dominate others due to rewards. The hallmark of connectionism (like all behavioral

theory) was that learning could be adequately explained without referring to any unobservable internal states.

Thorndike's theory consists of three primary laws: (1) law of effect - responses to a situation which are followed by a rewarding state of affairs will be strengthened and become habitual responses to that situation, (2) law of readiness - a series of responses can be chained together to satisfy some goal which will result in annoyance if blocked, and (3) law of exercise - connections become strengthened with practice and weakened when practice is discontinued. A corollary of the law of effect was that responses that reduce the likelihood of achieving a rewarding state (i.e., punishments, failures) will decrease in strength.

The theory suggests that transfer of learning depends upon the presence of identical elements in the original and new learning situations; i.e., transfer is always specific, never general. In later versions of the theory, the concept of "belongingness" was introduced; connections are more readily established if the person perceives that stimuli or responses go together (c.f. Gestalt principles). Another concept introduced was "polarity" which specifies that connections occur more easily in the direction in which they were originally formed than the opposite. Thorndike also introduced the "spread of effect" idea, i.e., rewards affect not only the connection that produced them but temporally adjacent connections as well.

## **Application**

Connectionism was meant to be a general theory of learning for animals and humans. Thorndike was especially interested in the application of his theory to education including mathematics, spelling and reading, measurement of intelligence and adult learning .

## **Example**

The classic example of Thorndike's S-R theory was a cat learning to escape from a "puzzle box" by pressing a lever inside the box. After much trial and error behavior, the cat learns to associate pressing the lever (S) with opening the door (R). This S-R connection is established because it results in a satisfying state of affairs (escape from the box). The law of exercise specifies that the connection was established because the S-R pairing occurred many times (the law of effect) and was rewarded (law of effect) as well as forming a single sequence (law of readiness).

## **Principles**

1. Learning requires both practice and rewards (laws of effect /exercise)
2. A series of S-R connections can be chained together if they belong to the same action sequence (law of readiness).

3. Transfer of learning occurs because of previously encountered situations.
4. Intelligence is a function of the number of connections learned.

### **Contiguity Theory (Edwin Guthrie)**

Guthrie's contiguity theory specifies that "a combination of stimuli which has accompanied a movement will on its recurrence tend to be followed by that movement". According to Guthrie, all learning was a consequence of association between a particular stimulus and response. Furthermore, Guthrie argued that stimuli and responses affect specific sensory-motor patterns; what are learned are movements, not behaviors.

In contiguity theory, rewards or punishment play no significant role in learning since they occur after the association between stimulus and response has been made. Learning takes place in a single trial (all or none). However, since each stimulus pattern is slightly different, many trials may be necessary to produce a general response. One interesting principle that arises from this position is called "posterity" which specifies that we always learn the last thing we do in response to a specific stimulus situation.

Contiguity theory suggests that forgetting is due to interference rather than the passage of time; stimuli become associated with new responses. Previous conditioning can also be changed by being associated with inhibiting responses such as fear or fatigue. The role of motivation is to create a state of arousal and activity which produces responses that can be conditioned.

### **Application**

Contiguity theory is intended to be a general theory of learning, although most of the research supporting the theory was done with animals. Guthrie did apply his framework to personality disorders.

### **Example**

The classic experimental paradigm for Contiguity theory is cats learning to escape from a puzzle box. Guthrie used a glass paneled box that allowed him to photograph the exact movements of cats. These photographs showed that cats learned to repeat the same sequence of movements associated with the preceding escape from the box. Improvement comes about because irrelevant movements are unlearned or not included in successive associations.

### **Principles**

1. In order for conditioning to occur, the organism must actively respond (i.e., do things).



2. Since learning involves the conditioning of specific movements, instruction must present very specific tasks.
3. Exposure too many variations in stimulus patterns is desirable in order to produce a generalized response.
4. The last response in a learning situation should be correct since it is the one that will be associated

### **Ivan Pavlov Theory**

Ivan Pavlov, in 1927, began working with learning through "classical conditioning." Initially the dog only salivated when it was eating. Later Pavlov noticed the dog salivated when he carried the food into the room. He becomes curious as to why this change had taken place. He thought there were both learned and unlearned components to the dog's behavior. He began experimenting with different stimuli, and if he rang a bell immediately before giving food to the dog, eventually the dog would salivate merely in response to the sound of the bell. He generated terminology to describe his observations. An unconditioned stimulus (UCS) such as food, generates an instinctual reflexive, unlearned behavior, such as salivation when eating. The salivation was called an unconditioned response (UCR) because it was not learned. The bell, formerly a neutral sound to the dog, becomes a conditioned learned stimulus (CLS) and the salivation a conditioned response (CR). Pavlov also found that the shorter the time between the stimulus and the response, the more quickly a conditioned response could be developed. Ringing the bell immediately before giving food to the dog was more effective than ringing it some longer period of time before feeding. He referred to the time between stimulus and response as contiguity of the stimulus. Other concepts developed by Pavlov were generalization, discrimination, and extinction. Pavlov described all learning in terms of classical conditioning. Later researchers disagreed with this position and demonstrated other modes of learning. We now know that we learn in many ways. Classical conditioning fails to acknowledge the active nature of an organism and its effect on the environment and other organisms in the environment.

### **Theory**

Kohler was one of the original Gestalt theorists, along with Wertheimer and Koffka. All of these "fathers of Gestalt" were Germans, but ended their careers in the US. Gestalt theory emerged as a reaction to the behaviorist theories of Pavlov and Watson which focused on mechanical stimulus-response behavior. The term "Gestalt" refers to any pattern or organized whole. The key concept in Gestalt theory is that the nature of the parts is determined by the whole - parts are secondary to the whole. When we process sensory stimuli, we are aware directly of a



configuration or overall pattern which is grasped as a whole. For example, when listening to music, we perceive a melody rather than individual notes, or when looking at a painting, we see the overall image rather than individual brush strokes. Köhler emphasized that one must examine the whole to discover what its natural parts are, and not proceed from smaller elements into wholes.

Kohler proposed the view that insight follows from the characteristics of objects under consideration. His theory suggested that learning could occur by "sudden comprehension" as opposed to gradual understanding. This could occur without reinforcement, and once it occurs, no review, training, or investigation are necessary. Significantly, insight is not necessarily observable by another person.

Insight learning is a theory of learning first put forth by Wolfgang Kohler about 90 years ago. Learn about the development and definition of this theory and then test your knowledge with a short quiz.

### **Theory Development**

In the 1920s, German psychologist Wolfgang Kohler was studying the behavior of apes. He designed some simple experiments that led to the development of one of the first cognitive theories of learning, which he called insight learning.

In his experiment, Kohler hung a piece of fruit just out of reach of each chimp. He then provided the chimps with either two sticks or three boxes, then waited and watched. Kohler noticed that after the chimps realized they could not simply reach or jump up to retrieve the fruit, they stopped, had a seat, and thought about how they might solve the problem. Then after a few moments, the chimps stood up and proceeded to solve the problem.

In the first scenario, the problem was solved by placing the smaller stick into the longer stick to create one very long stick that could be used to knock down the hanging fruit. In the second scenario, the chimps would solve the problem by stacking the boxes on top of each other, which allowed them to climb up to the top of the stack of boxes and reach the fruit.

Learning occurs in a variety of ways. Sometimes it is the result of direct observation; other times, it is the result of experience through personal interactions with the environment. Kohler called this newly observed type of learning insight learning. Based on these observations, Kohler's theory of insight learning became an early argument for the involvement of cognition, or thinking, in the process of learning.

## **Definition of Insight Learning**

Insight learning is the abrupt realization of a problem's solution. Insight learning is not the result of trial and error, responding to an environmental stimulus, or the result of observing someone else attempting the problem. It is a completely cognitive experience that requires the ability to visualize the problem and the solution internally - in the mind's eye, so to speak - before initiating a behavioral response.

Insight learning is considered a type of learning because it results in a long-lasting change. Following the occurrence of insight, the realization of how to solve the problem can be repeated in future similar situations.

## **Example of Insight Learning**

Insight learning happens regularly in each of our lives and all around us. Inventions and innovations alike are oftentimes the result of insight learning. We have all experienced the sensation of insight learning at one time or another. It is sometimes called a 'eureka' or 'aha' moment. Whatever you call it, insight learning is often at the root of creative, out of the box, thinking.

Here is an example of a situation that, while simple, illustrates the basic principles of insight learning. If you are like most people, when you were a kid you loved a good snow cone. While many think of snow cones as summertime treat, kids don't care what season it is. So, imagine it's January, you live in Minnesota, and your son wants a snow cone. Unless you have a snow cone maker, you're probably telling your son, 'Maybe the next time we go out to eat we'll get one, okay?'

## **Carl Rogers (1902 - 1987)**

### **Experiential Learning Theory**

Rogers distinguished two types of learning: cognitive (meaningless) and experiential (significant). The former corresponds to academic knowledge such as learning vocabulary or multiplication tables and the latter refers to applied knowledge such as learning about engines in order to repair a car. The key to the distinction is that experiential learning addresses the needs and wants of the learner. Rogers lists these qualities of experiential learning: personal involvement, self-initiated, evaluated by learner, and pervasive effects on learner.

To Rogers, experiential learning is equivalent to personal change and growth. Rogers feels that all human beings have a natural propensity to learn; the role of the teacher is to facilitate such learning. This includes: (1) setting a positive climate for learning, (2) clarifying the purposes of

the learner(s), (3) organizing and making available learning resources, (4) balancing intellectual and emotional components of learning, and (5) sharing feelings and thoughts with learners but not dominating.

According to Rogers, learning is facilitated when: (1) the student participates completely in the learning process and has control over its nature and direction, (2) it is primarily based upon direct confrontation with practical, social, personal or research problems, and (3) self-evaluation is the principal method of assessing progress or success. Rogers also emphasizes the importance of learning to learn and an openness to change.

Roger's theory of learning evolved as part of the humanistic education movement

### **Application**

Roger's theory of learning originates from his views about psychotherapy and humanistic approach to psychology. It applies primarily to adult learners and has influenced other theories of adult learning such as Knowles and Cross. Combs (1982) examines the significance of Roger's work to education. Rogers & Frieberg (1994) discuss applications of the experiential learning framework to the classroom.

### **Example**

A person interested in becoming rich might seek out books or classes on economics', investment, great financiers, banking, etc. Such an individual would perceive (and learn) any information provided on this subject in a much different fashion than a person who is assigned a reading or class.

### **Principles**

1. Significant learning takes place when the subject matter is relevant to the personal interests of the student
2. Learning which is threatening to the self (e.g., new attitudes or perspectives) are more easily assimilated when external threats are at a minimum
3. Learning proceeds faster when the threat to the self is low
4. Self-initiated learning is the most lasting and pervasive.

### **Genetic Epistemology (Jean Piaget)**

Over a period of six decades, Jean Piaget conducted a program of naturalistic research that has profoundly affected our understanding of child development. Piaget called his general theoretical

framework "genetic epistemology" because he was primarily interested in how knowledge developed in human organisms. Piaget had a background in both Biology and Philosophy and concepts from both these disciplines influences his theories and research of child development.

The concept of cognitive structure is central to his theory. Cognitive structures are patterns of physical or mental action that underlie specific acts of intelligence and correspond to stages of child development (see Schemas). There are four primary cognitive structures (i.e., development stages) according to Piaget: sensorimotor, preoperations, concrete operations, and formal operations. In the sensorimotor stage (0-2 years), intelligence takes the form of motor actions. Intelligence in the preoperational period (3-7 years) is intuitive in nature. The cognitive structure during the concrete operational stage (8-11 years) is logical but depends upon concrete referents. In the final stage of formal operations (12-15 years), thinking involves abstractions.

Cognitive structures change through the processes of adaptation: assimilation and accommodation. Assimilation involves the interpretation of events in terms of existing cognitive structure whereas accommodation refers to changing the cognitive structure to make sense of the environment. Cognitive development consists of a constant effort to adapt to the environment in terms of assimilation and accommodation. In this sense, Piaget's theory is similar in nature to other constructivist perspectives of learning (e.g., constructivism, social development theory).

While the stages of cognitive development identified by Piaget are associated with characteristic age spans, they vary for every individual. Furthermore, each stage has many detailed structural forms. For example, the concrete operational period has more than forty distinct structures covering classification and relations, spatial relationships, time, movement, chance, number, conservation and measurement. Similar detailed analysis of intellectual functions is provided by theories of intelligence such as intellect theory, multiple intelligences, and triarchic theory.

## **Application**

Piaget explored the implications of his theory to all aspects of cognition, intelligence and moral development. Many of Piaget's experiments were focused on the development of mathematical and logical concepts. The theory has been applied extensively to teaching practice and curriculum design in elementary education.

## **Example**

Applying Piaget's theory results in specific recommendations for a given stage of cognitive development. For example, with children in the sensorimotor stage, teachers should try to provide a rich and stimulating environment with ample objects to play with. On the other hand,

with children in the concrete operational stage, learning activities should involve problems of classification, ordering, location, conservation using concrete objects.

### **Principles**

1. Children will provide different explanations of reality at different stages of cognitive development.
2. Cognitive development is facilitated by providing activities or situations that engage learners and require adaptation (i.e., assimilation and accommodation).
3. Learning materials and activities should involve the appropriate level of motor or mental operations for a child of given age; avoid asking students to perform tasks that are beyond their current cognitive capabilities.
4. Use teaching methods that actively involve students and present challenges.

### **Social Learning Theory (Albert Bandura)**

The social learning theory of Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Bandura (1977) states: "Learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do. Fortunately, most human behavior is learned observationally through modeling: from observing others one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action." (p22). Social learning theory explains human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences. The component processes underlying observational learning are: (1) Attention, including modeled events (distinctiveness, affective valence, complexity, prevalence, functional value) and observer characteristics (sensory capacities, arousal level, perceptual set, past reinforcement), (2) Retention, including symbolic coding, cognitive organization, symbolic rehearsal, motor rehearsal), (3) Motor Reproduction, including physical capabilities, self-observation of reproduction, accuracy of feedback, and (4) Motivation, including external, vicarious and self reinforcement.

Because it encompasses attention, memory and motivation, social learning theory spans both cognitive and behavioral frameworks. Bandura's theory improves upon the strictly behavioral interpretation of modeling provided by Miller & Dollard (1941). Bandura's work is related to the theories of Vygotsky and Lave which also emphasize the central role of social learning.

## **Application**

Social learning theory has been applied extensively to the understanding of aggression and psychological disorders, particularly in the context of behavior modification. It is also the theoretical foundation for the technique of behavior modeling which is widely used in training programs. In recent years, Bandura has focused his work on the concept of self-efficacy in a variety of contexts.

## **Example**

The most common (and pervasive) examples of social learning situations are television commercials. Commercials suggest that drinking a certain beverage or using a particular hair shampoo will make us popular and win the admiration of attractive people. Depending upon the component processes involved (such as attention or motivation), we may model the behavior shown in the commercial and buy the product being advertised.

## **Principles**

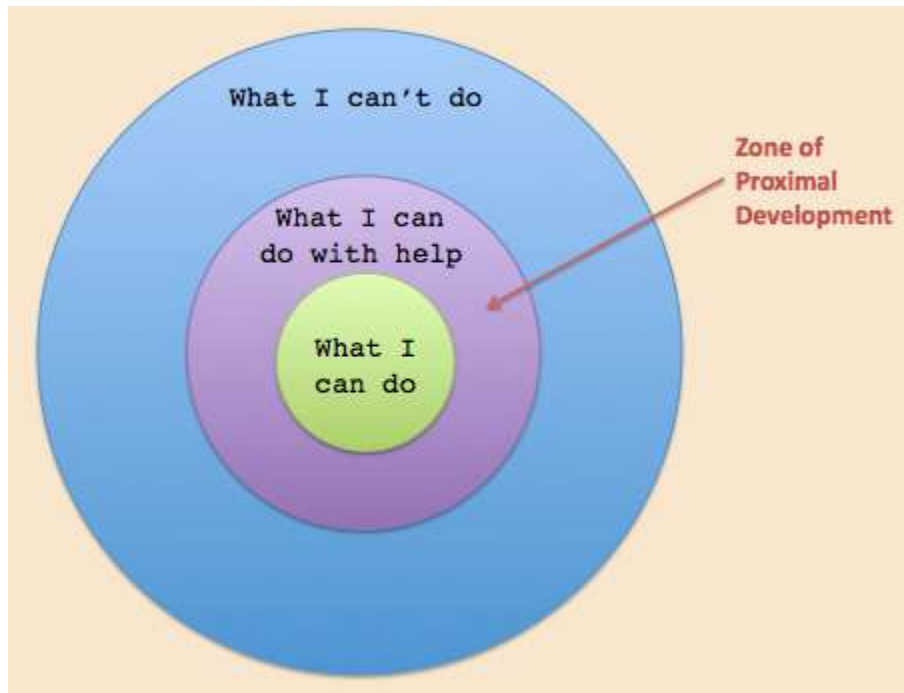
1. The highest level of observational learning is achieved by first organizing and rehearsing the modeled behavior symbolically and then enacting it overtly. Coding modeled behavior into words, labels or images results in better retention than simply observing.
2. Individuals are more likely to adopt a modeled behavior if it results in outcomes they value.
3. Individuals are more likely to adopt a modeled behavior if the model is similar to the observer and has admired status and the behavior has functional value.

## **Social Development Theory (Lev Vygotsky)**

### **Overview**

The major theme of Vygotsky's theoretical framework is that social interaction plays a fundamental role in the development of cognition. Vygotsky (1978) states: "Every function in the child's 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). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals." (p57).





A second aspect of Vygotsky's theory is the idea that the potential for cognitive development depends upon the "zone of proximal development" (ZPD): a level of development attained when children engage in social behavior. Full development of the ZPD depends upon full social interaction. The range of skill that can be

developed with adult guidance or peer collaboration exceeds what can be attained alone.

Vygotsky's theory was an attempt to explain consciousness as the end product of socialization. For example, in the learning of language, our first utterances with peers or adults is for the purpose of communication but once mastered they become internalized and allow "inner speech".

Vygotsky's theory is complementary to Bandura's work on social learning and a key component of situated learning theory as well. Because Vygotsky's focus was on cognitive development, it is interesting to compare his views with those of a constructivist (Bruner) and a genetic epistemologist (Piaget).

### **Application**

This is a general theory of cognitive development. Most of the original work was done in the context of language learning in children, although later applications of the framework have been broader.

### **Example**

Vygotsky provides the example of pointing a finger. Initially, this behavior begins as a meaningless grasping motion; however, as people react to the gesture, it becomes a movement



that has meaning. In particular, the pointing gesture represents an interpersonal connection between individuals.

## **Principles**

1. Cognitive development is limited to a certain range at any given age.
2. Full cognitive development requires social interaction.

## **Operant Conditioning (B.F. Skinner)**

The theory of B.F. Skinner is based upon the idea that learning is a function of change in overt behavior. Changes in behavior are the result of an individual's response to events (stimuli) that occur in the environment. A response produces a consequence such as defining a word, hitting a ball, or solving a math problem. When a particular Stimulus-Response (S-R) pattern is reinforced (rewarded), the individual is conditioned to respond. The distinctive characteristic of operant conditioning relative to previous forms of behaviorism (e.g., connectionism, drive reduction) is that the organism can emit responses instead of only eliciting response due to an external stimulus.

Reinforcement is the key element in Skinner's S-R theory. A reinforce is anything that strengthens the desired response. It could be verbal praise, a good grade or a feeling of increased accomplishment or satisfaction. The theory also covers negative reinforcers -- any stimulus that results in the increased frequency of a response when it is withdrawn (different from aversive stimuli -- punishment -- which result in reduced responses). A great deal of attention was given to schedules of reinforcement (e.g. interval versus ratio) and their effects on establishing and maintaining behavior.

One of the distinctive aspects of Skinner's theory is that it attempted to provide behavioral explanations for a broad range of cognitive phenomena. For example, Skinner explained drive (motivation) in terms of deprivation and reinforcement schedules. Skinner tried to account for verbal learning and language within the operant conditioning paradigm, although this effort was strongly rejected by linguists and psycholinguists. Skinner deals with the issue of free will and social control.

## **Application**

Operant conditioning has been widely applied in clinical settings (i.e., behavior modification) as well as teaching (i.e., classroom management) and instructional development (e.g., programmed instruction). Parenthetically, it should be noted that Skinner rejected the idea of theories of learning.

## Example

By way of example, consider the implications of reinforcement theory as applied to the development of programmed instruction

1. Practice should take the form of question (stimulus) - answer (response) frames which expose the student to the subject in gradual steps
2. Require that the learner make a response for every frame and receive immediate feedback
3. Try to arrange the difficulty of the questions so the response is always correct and hence a positive reinforcement
4. Ensure that good performance in the lesson is paired with secondary reinforcers such as verbal praise, prizes and good grades.

## Principles

1. Behavior that is positively reinforced will reoccur; intermittent reinforcement is particularly effective
2. Information should be presented in small amounts so that responses can be reinforced ("shaping")
3. Reinforcements will generalize across similar stimuli ("stimulus generalization") producing secondary conditioning

## Meaning of Cognition and its role in learning

**Cognition** is the set of all mental abilities and processes related to knowledge, attention, memory and working memory, judgment and evaluation, reasoning and "computation", problem solving and decision making, comprehension and production of language, etc. Human cognition is conscious and unconscious, concrete or abstract, as well as intuitive (like knowledge of a language) and conceptual (like a model of a language). Cognitive processes use existing knowledge and generate new knowledge.

The processes are analyzed from different perspectives within different contexts, notably in the fields of linguistics, anesthesia, neuroscience, psychiatry, psychology, education, philosophy, anthropology, biology, systemic, logic, and computer science. These and other different approaches to the analysis of cognition are synthesized in the developing field of cognitive science, a progressively autonomous academic discipline. Within psychology and philosophy, the concept of cognition is closely related to abstract concepts such as mind and intelligence. It

encompasses the mental functions, mental processes (thoughts), and states of intelligent entities (humans, collaborative groups, human organizations, highly autonomous machines, and artificial intelligences).

Thus, the term's usage varies across disciplines; for example, in psychology and cognitive science, "cognition" usually refers to an information processing view of an individual's psychological functions. It is also used in a branch of social psychology called social cognition to explain attitudes, attribution, and group dynamics. In cognitive psychology and cognitive engineering, cognition is typically assumed to be information processing in a participant's or operator's mind or brain. Cognition can in some specific and abstract sense also be artificial.

### **Socio-Cultural factors Influencing cognition and learning**

#### **Social and Culture: What does a socio-cultural perspective imply?**

As the name implies, two words are central to the socio-cultural approach on psychological and educational issues: "social" and "cultural". When something is social, it's automatically interconnected and referred to other people. M. Weber, one of the most important sociologists in the first half of the 20<sup>th</sup> century, defined "social acting" in a way, that the sense of the action is related to others' behaviour. If I found a wallet lying on the street, I would bring it to the lost property office in anticipation of someone who's searching for it. If I weren't expect that, it wouldn't be a kind of social behaviour. So the relation to others' behaviour gives sense to my acting and initiates it, consequently it is social acting. Moreover, the sequence of a social action is oriented to others: The social commitment, how to drink beer in a community, hence you clink glasses and have a nip on your drink, structures the procedure and gives sense to it. You see: social acting is an essential part of our everyday life and also occurs at the workplace.

The meaning of the second word "culture" is a classical anthropological issue. A row of different definitions exist, which handle the term mostly as a kind of individual quality, influenced by the social environment. For instance, Taylor, a cultural anthropologist, defined culture as "that complex whole which includes knowledge, belief, art, morals, law custom, and any other capabilities and habits acquired by man as a member of society. Goodenough (1994), influenced by a more psychological point of view, described culture as something, which "one needs to know to participate accept as a member in a society's affairs'. Furthermore, he adds: „Material objects people create are not in and themselves things they learn...What they learn are necessary percepts, concepts, recipes, and skill – the things they need to know in order to make things that will meet the standards of their fellows That means: culture is the interconnection between the individuals and the objects in the environment through their usage in a specific and socially legitimate way. Moreover, culture is necessary to participate in the social environment. Because

of that, culture is both a contextual and a cognitive phenomenon: the context influences and creates human cognitive structures and vice versa.

Thus, a socio-cultural perspective on Workplace Learning underlines the importance of the social working context and its structure for the individual learning processes. The basic element of examination is neither the individual alone, as typical for cognitive psychological perspectives, nor just the social complex by itself: the socio-cultural perspectives on psychological issues means a holistic research aim to understand the interconnections between the intrapsychological and the interpsychological mechanisms. Consequently, the social community and the specific working culture at the workplace become essential for individual development and learning processes at work. Each community in a specific domain develops own ways of “tool” handling to fit in its environment. How someone categorizes objects and how he or she behaves, is influenced by the social environment at the workplace.

### **Understanding Processes that facilitates construction of knowledge**

#### **Learning to learn through reflection – an experiential learning perspective**

##### **What is experiential learning?**

Recent approaches to foreign language education emphasize the significance of the students' own contributions to their language learning through initiative-taking and active involvement. Students need to take charge of their learning in order to enhance their autonomy as students and language users. This shift in the research has brought an increased interest the students themselves as learners in general and as language learners in particular. Students need to be facilitated to develop a basic reflective orientation by working on their experiences, beliefs and assumptions of language and learning.

Experiences of language, communication, culture and personal learning processes are essential for foreign language learning – but they need to be processed consciously for learning to take place. Learning requires an explicit awareness and understanding of what it is that needs to be learned (metalinguistic and metacognitive awareness), and why such learning is necessary. Learning is the process of creating new knowledge and understandings through the *transformation of experience*. Reflection plays an important role in this process by providing a bridge between practical experience and theoretical conceptualisation. The *experiential learning* is an educational orientation which aims at integrating theoretical and practical elements of learning for a whole person approach, emphasizing the significance of experience for learning. The approach is well-known in various settings of informal learning, such as internships in business and service organizations, work and study assignments, clinical experience,

international exchange and volunteer programmes, etc. However, the principles and practices can be used both in formal learning (institutional) contexts and in informal learning. Experiential learning techniques include a rich variety of interactive practices whereby the participants have opportunities to learn from their own and each others' experiences, being actively and personally engaged in the process:

- Personal journals, diaries
- Portfolios
- Reflective personal essays and thought questions
- Role plays drama activities
- Games and simulations
- Personal stories and case studies
- Visualizations and imaginative activities
- Models, analogies and theory construction
- Empathy-taking activities
- Story-telling, sharing with others
- Discussions and reflection in cooperative groups

### **Model of Experiential Learning.**

According to the model, learning is essentially a process of resolution of conflicts between two dialectically opposed dimensions, the *prehension* dimension and the *transformation* dimension.

(1) The *prehension dimension* explores the ways in which the individual grasps experience. The dimension includes two polar ends of the *ways of knowing*, ranging from unconscious, intuitive experience (involving tacit knowledge) to a conscious comprehension of the experience. Abstract conceptualisation structures and organises the flow of unconscious sensations. Reality is thus grasped and made sense of through varying degrees of unconscious and conscious learning.

(2) The *transformation dimension* entails the transformation of experience through reflective observation and active experimentation. An individual with an active orientation is willing to take risks and has little concern for errors or failure. An individual with a reflective orientation, On the other hand, may withdraw from such risks, preferring to transform experiences through reflective observation.

### **Situated Learning (J. Lave)**

Lave argues that learning as it normally occurs is a function of the activity, context and culture in which it occurs (i.e., it is situated). This contrasts with most classroom learning activities which involve knowledge which is abstract and out of context. Social interaction is a critical component of situated learning -- learners become involved in a "community of practice" which embodies certain beliefs and behaviors to be acquired. As the beginner or newcomer moves from the periphery of this community to its center, they become more active and engaged within the

culture and hence assume the role of expert or old-timer. Furthermore, situated learning is usually unintentional rather than deliberate. These ideas are what Lave & Wenger (1991) call the process of "legitimate peripheral participation."

Other researchers have further developed the theory of situated learning. Brown, Collins & Duguid (1989) emphasize the idea of cognitive apprenticeship: "Cognitive apprenticeship supports learning in a domain by enabling students to acquire, develop and use cognitive tools in authentic domain activity. Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge." Brown et al. also emphasize the need for a new epistemology for learning -- one that emphasizes active perception over concepts and representation. Suchman (1988) explores the situated learning framework in the context of artificial intelligence.

Situated learning has antecedents in the work of Gibson (theory of affordances) and Vygotsky (social learning). In addition, the theory of Schoenfeld on mathematical problem solving embodies some of the critical elements of situated learning framework.

## **Application**

Situated learning is a general theory of knowledge acquisition. It has been applied in the context of technology-based learning activities for schools that focus on problem-solving skills (provides a collection of articles that describe various perspectives on the theory.

## **Example**

Lave & Wenger (1991) provide an analysis of situated learning in five different settings: Yucatec midwives, native tailors, navy quartermasters, meat cutters and alcoholics. In all cases, there was a gradual acquisition of knowledge and skills as novices learned from experts in the context of everyday activities.

## **Principles**

1. Knowledge needs to be presented in an authentic context, i.e., settings and applications that would normally involve that knowledge.
2. Learning requires social interaction and collaboration.

## **Cognitive Apprenticeship**

Cognitive apprenticeship is a theory of the process where a master of a skill teaches that skill to an apprentice.



Constructivist approaches to human learning have led to the development of a theory of cognitive apprenticeship. This theory holds that masters of a skill often fail to take into account the implicit processes involved in carrying out complex skills when they are teaching novices. To combat these tendencies, cognitive apprenticeships "...are designed, among other things, to bring these tacit processes into the open, where students can observe, enact, and practice them with help from the teacher.... This model is supported by Albert Bandura's theory of modeling, which posits that in order for modeling to be successful, the learner must be attentive, must have access to and retain the information presented, must be motivated to learn, and must be able to accurately reproduce the desired skill.

By using processes such as modeling and coaching, cognitive apprenticeships also support the three stages of skill acquisition described in the expertise literature: the cognitive stage, the associative stage, and the autonomous stage. In the cognitive stage, learners develop declarative understanding of the skill. In the associative stage, mistakes and misinterpretations learned in the cognitive stage are detected and eliminated while associations between the critical elements involved in the skill are strengthened. Finally, in the autonomous stage, the learner's skill becomes honed and perfected until it is executed at an expert level.

Like traditional apprenticeships, in which the apprentice learns a trade such as tailoring or woodworking by working under a master teacher, cognitive apprenticeships allow the master to model behaviors in a real-world context with cognitive modeling. By listening to the master explain exactly what she is doing and thinking as she models the skill, the apprentice can identify relevant behaviors and develop a conceptual model of the processes involved. The apprentice then attempts to imitate those behaviors with the master observing and providing coaching. Coaching provides assistance at the most critical level – the skill level just beyond what the learner/apprentice could accomplish by herself. Vygotsky referred to this as the Zone of Proximal Development and believed that fostering development within this zone leads to the most rapid development.

### **The Construction of Knowledge: A Cognitive Perspective on How We Know What We Know**

The Swiss biologist Jean Piaget (1896-1980) is perhaps best known for his theoretical assertion that all of development is an interaction between a biological organism and its environment, between subject and object, or, more colloquially, an interaction between nature and nurture. And, most importantly, that knowledge about both objects and the social world are "constructed" through this interaction. In other words, the child is not a passive vessel into which knowledge and facts are poured, rather the child actively attends to and interprets information from the environment. This was a revolutionary construct at the time, because it is akin to claiming that knowledge is a process, not a static thing. Piaget's particular focus was on explaining the "how"

of development from birth through adolescence, but has enormous relevance for understanding framing, more generally. Piaget's idea of interaction explains how knowledge about the world gets processed, and how knowledge progresses into coherent views about the world.

Because Piaget was a biologist, it is no surprise that he considered development to be essentially "about" adaptation to one's environment. Piaget postulated that this "cognitive adaptation" happens by way of two complementary and interactive processes: assimilation and accommodation. Let's explain these processes by way of an example. Consider a toddler who has come across a toy truck for the first time. He will try to make sense of this new object by applying what he knows to this new case. He tries to "assimilate" the truck into his existing knowledge of objects by applying his existing repertoire of actions onto the truck. So he grabs it, puts it in his mouth, tries to bounce it, shakes it, all in an attempt to understand the truck. But the truck is different; it has new characteristics heretofore unseen! Then he pushes it, like he might a favorite ball, and sees that it moves forward. He then stretches that pushing behavior by picking it up, running the truck along the coffee table. That "bending" of his existing repertoire is "accommodation;" he's mentally accommodating or adjusting to the demands of this new object. And what's the result? He assimilates that new knowledge of "how to play with a truck" back into his repertoire, and, in return, gets to rely on an expanded repertoire of actions in the future!

These organized repertoires of actions are labeled by Piaget as "schema" (sometimes referred to as "schemata" or "schemes"). Schemas are generalized patterns of understanding and behavior that help us interpret and adapt to the world. As children interact with their environment, constantly accommodating to new objects and assimilating new information into existing schema, these schemas become broader and more complex. A child who lives with a Labrador retriever may have a schema for "dog" that is somewhat narrow until she goes to the dog park and sees Shih Tzus and Great Danes and Poodles, all of which are accommodated to and assimilated back into her "dog" schema. If the schema become more complex, you may wonder, then how are they adaptive? Because instead of having separate schema for each dog ever met, there is one organized schema – schema are prototypes, general impressions or representations to social problems.

## **Metacognition**

"Metacognition" is one of the latest buzz words in educational psychology, but what exactly is metacognition? The length and abstract nature of the word makes it sound intimidating, yet it's not as daunting a concept as it might seem. We engage in metacognitive activities every day. Metacognition enables us to be successful learners, and has been associated with intelligence. Metacognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning. Activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are metacognitive in nature. Because metacognition plays a critical role in successful learning, it is

important to study metacognitive activity and development to determine how students can be taught to better apply their cognitive resources through metacognitive control.

"Metacognition" is often simply defined as "thinking about thinking." In actuality, defining metacognition is not that simple. Although the term has been part of the vocabulary of educational psychologists for the last couple of decades, and the concept for as long as humans have been able to reflect on their cognitive experiences, there is much debate over exactly what metacognition is. One reason for this confusion is the fact that there are several terms currently used to describe the same basic phenomenon (e.g., self-regulation, executive control), or an aspect of that phenomenon (e.g., meta-memory), and these terms are often used interchangeably in the literature. While there are some distinctions between definitions, all emphasize the role of executive processes in the overseeing and regulation of cognitive processes.

Metacognition consists of both metacognitive knowledge and metacognitive experiences or regulation. Metacognitive knowledge refers to acquired knowledge about cognitive processes, knowledge that can be used to control cognitive processes. Flavell further divides metacognitive knowledge into three categories: knowledge of person variables, task variables and strategy variables.

### **Metacognitive Knowledge**

Stated very briefly, knowledge of person variables refers to general knowledge about how human beings learn and process information, as well as individual knowledge of one's own learning processes. For example, you may be aware that your study session will be more productive if you work in the quiet library rather than at home where there are many distractions. Knowledge of task variables includes knowledge about the nature of the task as well as the type of processing demands that it will place upon the individual. For example, you may be aware that it will take more time for you to read and comprehend a science text than it would for you to read and comprehend a novel. Finally, knowledge about strategy variables include knowledge about both cognitive and metacognitive strategies, as well as conditional knowledge about when and where it is appropriate to use such strategies.

### **Metacognitive Regulation**

Metacognitive experiences involve the use of metacognitive strategies or metacognitive regulation (Brown, 1987). Metacognitive strategies are sequential processes that one uses to control cognitive activities, and to ensure that a cognitive goal (e.g., understanding a text) has been met. These processes help to regulate and oversee learning, and consist of planning and monitoring cognitive activities, as well as checking the outcomes of those activities.

For example, after reading a paragraph in a text a learner may question herself about the concepts discussed in the paragraph. Her cognitive goal is to understand the text. Self-

questioning is a common metacognitive comprehension monitoring strategy. If she finds that she cannot answer her own questions, or that she does not understand the material discussed, she must then determine what needs to be done to ensure that she meets the cognitive goal of understanding the text. She may decide to go back and re-read the paragraph with the goal of being able to answer the questions she had generated. If, after re-reading through the text she can now answer the questions, she may determine that she understands the material. Thus, the metacognitive strategy of self-questioning is used to ensure that the cognitive goal of comprehension is met.

### **Cognitive vs. Metacognitive Strategies**

Most definitions of metacognition include both knowledge and strategy components; however, there are a number of problems associated with using such definitions. One major issue involves separating what is cognitive from what is metacognitive. What is the difference between a cognitive and a metacognitive strategy? Can declarative knowledge be metacognitive in nature? For example, is the knowledge that you have difficulty understanding principles from bio-chemistry cognitive or metacognitive knowledge? Flavell himself acknowledges that metacognitive knowledge may not be different from cognitive knowledge. The distinction lies in how the information is used. Recall that metacognition is referred to as "thinking about thinking" and involves overseeing whether a cognitive goal has been met. This should be the defining criterion for determining what is metacognitive. Cognitive strategies are used to help an individual achieve a particular goal (e.g., understanding a text) while metacognitive strategies are used to ensure that the goal has been reached (e.g., quizzing oneself to evaluate one's understanding of that text). Metacognitive experiences usually precede or follow a cognitive activity. They often occur when cognitions fail, such as the recognition that one did not understand what one just read. Such an impasse is believed to activate metacognitive processes as the learner attempts to rectify the situation.

### **Metacognition and Intelligence**

Metacognition or the ability to control one's cognitive processes (self-regulation) has been linked to intelligence. Sternberg refers to these executive processes as "metacomponents" in his triarchic theory of intelligence. Metacomponents are executive processes that control other cognitive components as well as receive feedback from these components. According to Sternberg, metacomponents are responsible for "figuring out how to do a particular task or set of tasks, and then making sure that the task or set of tasks are done correctly" (Sternberg, 1986b, p. 24). These executive processes involve planning, evaluating and monitoring problem-solving activities. Sternberg maintains that the ability to appropriately allocate cognitive resources, such as deciding how and when a given task should be accomplished, is central to intelligence.

## **Metacognition and Cognitive Strategy Instruction**

Although most individuals of normal intelligence engage in metacognitive regulation when confronted with an effortful cognitive task, some are more metacognitive than others. Those with greater metacognitive abilities tend to be more successful in their cognitive endeavors. The good news is that individuals can learn how to better regulate their cognitive activities. Most often, metacognitive instruction occurs within Cognitive Strategy Instruction programs.

Cognitive Strategy Instruction (CSI) is an instructional approach which emphasizes the development of thinking skills and processes as a means to enhance learning. The objective of CSI is to enable all students to become more strategic, self-reliant, flexible, and productive in their learning endeavors. CSI is based on the assumption that there are identifiable cognitive strategies, previously believed to be utilized by only the best and the brightest students, which can be taught to most students. Use of these strategies has been associated with successful learning.

Metacognition enables students to benefit from instruction and influences the use and maintenance of cognitive strategies. While there are several approaches to metacognitive instruction, the most effective involve providing the learner with both knowledge of cognitive processes and strategies (to be used as metacognitive knowledge), and experience or practice in using both cognitive and metacognitive strategies and evaluating the outcomes of their efforts (develops metacognitive regulation). Simply providing knowledge without experience or vice versa does not seem to be sufficient for the development of metacognitive control.

The study of metacognition has provided educational psychologists with insight about the cognitive processes involved in learning and what differentiates successful students from their less successful peers. It also holds several implications for instructional interventions, such as teaching students how to be more aware of their learning processes and products as well as how to regulate those processes for more effective learning.

### **Role of Teacher in a teaching Learning Context**

- Teacher is like the parent to student. He must try to see if the students are fine, healthy and active. He has to encourage students to take up extracurricular activities besides studies and also welfare programs with the support of his colleagues.
- Students generally keep a watch on teacher's life. So, a teacher has to maintain good set of manners and try to be a role model. This not only helps students adopt it but also improves their regard to the teacher.
- In case student's parents wish to meet them, the teacher must be ready to listen and cooperate with them.



- Teachers should encourage student welfare program, sports, tutoring etc. Even education trips are to be included in the school life of the children.
- It is common that children try to imitate their teachers out of inspiration from them. Hence, the teacher should try to balance his mindset by not showing fear, anxiety, over excitement etc. He must maintain his coolness and be of composed mind.
- This implies that one should play the role of a teacher with dedication, honesty, affection and patience.

### UNIT 3

## INTELLIGENCE AND MOTIVATION

### **Definition of Intelligence**

Intelligence involves the ability to adapt to one's environment and the capacity to learn from experience.

**Charles Spearman** concluded that there was a common function across intellectual activities, including what he called "g" or general intelligence. Research has found "g" to be highly correlated with many important social outcomes and is the single best predictor of successful job performance.

The current American Psychological Association conceptualizes intelligence as a hierarchy of lower order intelligence factors with "g" at its apex.

Emotional intelligence and social intelligence have been positively associated with good leadership skills, good interpersonal skills, positive outcomes in classroom situations, and better functioning in the world.

### **Nature of Intelligence and role of heredity and environment**

The intelligence of any particular psychological act is a function of the incomplete stage of the act at which it is the subject of trial-and-error choice. Intelligence, considered as a mental trait, is the capacity to make impulses focal at their early, unfinished stage of formation. Intelligence is therefore the capacity for abstraction, which is an inhibitory process. In the intelligent moment the impulse is inhibited while it is still only partially specified, while it is still only loosely organized. It is then known as a universal or a concept. The trial-and-error choice and elimination, in intelligent conduct, is carried out with alternatives that are so incomplete and so loosely organized that they point only toward types of behaviour without specifying the behaviour in detail.



## 2. CONSUMMATORY BEHAVIOUR

In the lowest form of conduct that we can imagine with regard to its intelligence, we have every impulse of the organism expressed in purely random forms without consciousness. It is purely reflex. In such behaviour every impulse expresses itself without inhibition or anticipation of the experience. Such random behaviour is continued until the

(160) satisfactions of the organism are attained. The life of such organisms is limited entirely to contact experience of the consummatory sort. Consciousness implies anticipation of experience and that is impossible in a life that is limited to consummatory and random contact experience.

## 3. ANIMAL INTELLIGENCE

The first sign of intelligence appears when the consummatory contact experience is associated with sense-experience. After a few repetitions of such association the sense-experience alone comes to represent the completion of the experience. The sense-impression comes to mean the expected consummation in contact form. The trial-and-error elimination of failures is then removed from the realm of completely enacted contact experience to the realm in which these contact experiences are merely indicated by their corresponding sensory cues. The impulses that are checked in terms of the expected experience, with which the sensory cues of the moment have been associated, are said to be conscious. Consciousness is, functionally considered, just this expectation of a completed experience in terms of the indices of the moment. It implies a shift of the trial-and-error life of the actor from overt experience to the incomplete experience which is the sensory cue. This has been shown to be essentially a process of conditioning in the behaviouristic sense. Animal intelligence is limited in the degree of incompleteness of expected experience at which its trial-and-error life may be carried out. It is limited in its capacity for abstraction to that degree of it which is marked by the use of sensory cues as indices of expected experience. Its trial-and-error choice of behaviour is therefore limited to the immediate present.

## 4. A CHILD'S INTELLIGENCE

If we continue the progress marked by the shift of the trial-and-error point from among overt particulars to the stage at which these particulars are anticipated in terms of the sensory cues, we come to the stage of development of mind at which the actor can make focal his impulses for trial-and-error choice in the absence of the stimulus. That is ideation. It is directly continuous with the intelligence that is limited to the immediate present. This further progress simply means that the impulse is made focal at a still less defined stage when it has still fewer attributes, being stripped even of those attributes which are implied by the sensory cue.

The intelligence of the child is greatly in advance of that of the animal in that it is able to anticipate experience which is not perceptually present. The child is capable of ideational trial and error even though the process is for a time limited to the situations in which perceptual experience is imaginably represented rather than universals of higher order. The child's imagination is limited to the situations in which its bodily relations are imaginably specified. It remains for the intelligence level of the adult to be able to imagine expected experience so incompletely specified that one's bodily relations are not imaginably represented.

## 5. ADULT INTELLIGENCE

In the normal adult intelligence we have the capacity to represent expected experience in terms of cues that point toward types of experience and in which the bodily relations of the actor are not even specified. This is conceptual thinking. The types of experience are represented in conceptual thinking by symbols that are less detailed than the perceptual cues. The visual and auditory images that serve as indices of meaning in the adult mind are in reality incomplete acts which are being accepted or rejected in terms of the purposes of the moment. The meaning of a concept is the potential particularization of the imaginable cue into expected experience.

We have seen that the differentiation of the exploring function of the receptors is the beginning of the development of intelligence. The biological function of intelligence is to protect the organism from bodily risk and to satisfy its wants with the least possible chance of recording failure on the environment. This is accomplished by deflecting an impulse which is headed toward failure before the failure is realized. It is made possible by the fact that, psychologically, a part of an experience serves the purpose of guiding the whole of the experience. The percept represents the experience that would be met if the percept were ignored. The deflection of an impulse toward or away from an experience is determined by that small part of the experience which constitutes the sensory cue or its ideational equivalent. If a certain course of action is declared to be a bad policy and thereby rejected, the future failure is eliminated when the impulse is only conceptual and before the details of the impending failure have been realized.

In a biological sense the higher thought processes serve the same purpose for the organism as the simplest anatomical differentiation of the exploring function. The two are exactly the same in kind. They differ only in the degree of incompleteness of the experiences that are being chosen and eliminated.

It is of some interest to speculate about the nature of the continued development of intelligence. Further development of intelligence might give facility in selecting effective behaviour with impulses that are close to their source, while they are in what we know as the preconscious or subconscious. To think would then be to use terms that are less and less

cognitive but more and more loaded with affectivity. It might possibly come about that the highest possible form of intelligence is one in which the alternatives are essentially nothing but affective states. Some characteristics of genius would not be inconsistent with such a view.

### **How Nature and Nurture Interact in Their Influence on Intelligence**

Clearly both nature and nurture influence intelligence. What is less clear is how much influence each of these factors has. A few theorists have tried to estimate nature's contribution (the heritability of IQ) from the correlations obtained in twin and adoption studies (e.g., McGue et al., 1993; Plomin et al., 1997). But most psychologists now believe that it may ultimately be impossible to separate the relative effects of heredity and environment. They suggest that the two combine to influence children's cognitive development and measured IQ in ways that we can probably never disentangle.. Theorists have made the following general points about how nature and nurture interact as they affect intellectual development:

Heredity establishes a range rather than a precise figure. Heredity does not dictate that a child will have a particular IQ score. Instead, it appears to set a range of abilities within which children will eventually fall, with the actual ability level each one achieves depending on his or her specific environmental experiences (Weinberg, 1989). Heredity may also affect how susceptible or impervious a child is to particular environmental influences (Rutter, 1997). For example, high-quality instruction may be more important for some children than for others. In the opening case study, Gina learned how to read before she attended school, and with only minimal help from her mother. Yet other, equally intelligent children may learn to read only when they have systematic reading instruction tailored to their individual needs.

Genetic expression is influenced by environmental conditions. Genes are not entirely self-contained, independent "carriers" of developmental instructions. Rather, the particular instructions they transmit are influenced by the supportive or nonsupportive nature of children's environments. In an extremely impoverished environment—one with a lack of adequate nutrition and little if any stimulation—heredity may have little to say about the extent to which children develop intellectually. In an ideal environment—one in which nutrition, parenting practices, and educational opportunities are optimal and age-appropriate—heredity can have a significant influence on children's IQ scores.

Intelligence is almost certainly the result of many genes, each contributing a small amount to measured IQ (Sattler, 2001). These genes may "kick in" at different points in development, and their expression will be influenced by particular environmental conditions at those times. Thus

we do not have a single heredity-environment interaction, but rather a number of heredity-environment interactions all contributing to intellectual growth (Simonton, 2001).

Especially as they get older, children choose their environments and experiences. Children may actively seek out environmental conditions that match their inherited abilities—a phenomenon known as niche-picking. For example, children who, genetically speaking, have exceptional quantitative reasoning ability may enroll in advanced mathematics courses, delight in tackling mathematical brainteasers, and in other ways nurture their inherited talents. Children with average quantitative ability are less likely to take on such challenges and so have fewer opportunities to develop their mathematical skills. In such circumstances the relative effects of heredity and environment are difficult to tease apart.

Earlier we mentioned that the IQ correlations between adopted children and their biological parents become stronger over time. We now have a possible explanation for this finding. Children gain increasing independence as they get older. Especially as they reach adolescence, they spend less time in their home environments, and they make more of their own decisions about the kinds of opportunities to pursue—decisions undoubtedly based, in part, on their natural talents and tendencies.

Genetic activity affects neural activity (i.e., the operation of neurons in the brain), which in turn affects behavior, which in turn affects the environment. But influence moves in the opposite direction as well: The environment affects behavior, and these two (through stimulation, nutritional intake, physical activity, etc.) affect neural activity and genetic expression.

## **Theories of Intelligence**

### **Spearman's two factor theory of Intelligence**

Spearman (1972) believed that an individual's performance on a test of intellectual ability is determined by two factors: the g factor which is a general factor and the s factor which is a factor specific to a particular test. He believed the g factor involved three principles of cognition: 1. apprehension of experience, 2. education of relations and 3. Education of correlates.

Charles Spearman advanced Two-Factor Theory of intelligence in 1927. It was a theory of trait organization based on the statistical analysis of test scores. Spearman pointed out that all intellectual activities have a single common factor called the general factor or "g" factor. Again he advanced a number of specific or "s" factors. Each of the s-factors refers to a specific single activity. He explored statistically the interrelations among scores obtained by many persons on various tests. Positive correlation between any two mental functions was attributed to "g" factor. But the specific factors have low correlations among them.

Spearman's model implies that the objectives of psychological testing should be to measure the amount of each individual's 'g'. The g-factor runs through all abilities, and forms the basis for prediction of the individual's performance. It would be futile to measure specific factor, as each operates in only a single activity.

### **Guilford factor analytical theory**

During Guilford's time as interim director of the Psychology Clinic, he became interested in the dissimilarities of children's abilities in different areas. He came to believe intelligence was not one monolithic, global attribute but a combination of multiple abilities. This is what was to be the dominant focus of his professional career—individual differences. Guilford believed there were many relatively independent mental abilities factors. With WWII, Guilford was able to apply his factor analytic methodology to study these mental abilities. Because of his research on U.S. Army Air Corps during the war, he and his collaborators were able to identify and measure twenty-five important mental ability factors.

Further, Guilford believed societies quest for easily objectifiable testing and scoring had directed away from measuring important qualities that individuals possess. Operationally, intelligence was defined as the ability to read, compute mathematically, and perform other similar subjects. According to Guilford, these types of intelligence tests revealed little about a person's creative nature. After researching available intelligence tests, he determined many do not intercorrelate perfectly because each test emphasized a different primary ability. Guilford concluded individuals differ in a continuous manner for each primary ability.

By the 1950's, Guilford felt there needed to be a system developed to classify the new mental abilities being discovered. Traditional models prior to Guilford proposed a single universal ability at the top of a hierarchical pattern. In 1955, the first version of the Structure of Intellect (SI) model was presented. This model became Guilford's main focus of research. The SI model includes a Content dimension, Products dimension, and Operations dimension. It is represented as a cube with each of the three dimensions occupying one side. Each ability is defined by a conjunction of the three categories, occupying one cell in the three-dimensional figure. There are five categories of Content including visual, auditory, symbolic, semantic, and behavioral. Six categories exist in the Products dimension including units, classes, relations, systems, transformation, and implications. The five kinds of Operations include cognition, memory, divergent production, convergent production, and evaluation. Guilford's SI Theory is an open system such that it allows for newly discovered categories to be added in any of three directions. Many of the abilities are believed to be correlated with each other. The 5 x 6 x 5 figure provides at least 150 possible abilities, with over 100 having been empirically verified. The model also suggests where new abilities may be discovered based on existing abilities. Because of

Guilford's contributions during his career, intelligence was shown to be incredibly complex. No longer was intelligence a monolithic global trait considered innate and absolute.

### **Sternberg's information processing theory**

#### Sternberg's Theory of Intelligence and Information Processing

Intelligence is one of the most complex, talked about concepts within the field of psychology. In the past century, several theories about what constitutes intelligence have been created. Robert Sternberg, an American psychologist, created one of the most well-known theories of intelligence. Unlike most theories of intelligence, Sternberg's theory calls for the integration of intelligence and creativity.

According to Robert Sternberg's theory, there are three basic mental processes that underlie all intelligent behavior. The three basic mental processes are:

- Metacomponents
- Performance components
- Knowledge-acquisition components

Although what is viewed as intelligent in one culture might not be viewed as intelligent in another, the basic mental processes are the same across different cultures.

Metacomponents are the executive processes that we use to solve problems, plan what to do, make decisions, and evaluate outcomes. Performance components carry out the directions of the metacomponents. It is performance components that allow us to store information in short-term memory compare two concepts, compare solutions to the task, etc. Knowledge-acquisition components are what we use to learn and store new information. In other words, metacomponents tell us what to do, performance components actually do it, and knowledge-acquisition components make sure we learn things along the way.

For example, you may plan to read a book - that involves metacomponents. When you grab a book off the shelf and actually read it that involves performance components. If you learn new vocabulary words while reading, that involves knowledge-acquisition components.

### **Three Parts of Intelligence**

So what makes a person intelligent? According to Sternberg, intelligence cannot be defined by intelligence tests such as the Stanford-Binet scales. Rather, intelligence should be defined in terms of how you perform in your everyday world.



Sternberg refers to what he calls successful intelligence. People who are successfully intelligent are able to define and achieve their own idea of success within their culture. People who are successfully intelligent are skilled at adapting to and modifying their environment to fit their needs. Because your intelligence is highly dependent upon the culture that you live in, an individual that is considered intelligent in one culture might not be considered intelligent in another.

There are three components of successful intelligence: analytical, creative, and practical intelligence. It is not enough to possess the three components. One must know when and how to use these components in order to be effective.

### **Analytical Intelligence**

Have you ever been called 'book smart?' If so, you were being complimented on your analytical intelligence, which refers to your ability to problem-solve, process information effectively, and complete academic tasks. Analytical intelligence is also called componential intelligence. People with high analytical intelligence perform well on traditional IQ tests (i.e., Stanford-Binet scales), college admission exams (i.e., Scholastic Assessment Test), and school exams (i.e. math quizzes). They are skilled at critical thinking and analytical thinking. People with high analytical intelligence can examine problems from multiple points of view.

### **Creative Intelligence**

Creative intelligence is our ability to call upon existing knowledge and skills to effectively handle new and unusual situations. It is also called experiential intelligence because creative intelligence involves using past experiences. People with high creative intelligence have great insight, imagination, and are able to formulate new ideas. For example, painters are often able to use their imagination to paint original artwork. Unlike analytical intelligence, creative intelligence is often overlooked by intelligence tests.

### **Practical Intelligence**

Have you ever been told that you are street-smart? If so, you were being complimented on your practical intelligence, the ability to call upon our existing knowledge and skills to adapt to or shape our changing environment. Practical intelligence is also referred to as contextual knowledge because it is dependent upon the context, or situation. People with high practical intelligence are able to identify the factors that are needed for success and are able to adapt to or modify their environment so that they can achieve their goals. Practical intelligence is comprised of three things:

1. Adapting to your environment to achieve success
2. Shaping or modifying the environment to achieve success
3. If the other two do not work, going to a new environment where you can be successful

Practical intelligence is what we rely on when we deal with personal, everyday sorts of problems. For example, suppose that you were driving on a highway, got a flat tire, and your cell phone was dead. It is your practical intelligence that you would rely on in this situation. Like creative intelligence, traditional intelligence tests fail to measure practical intelligence.

### **Howard Gardner's Theory of Multiple Intelligence**

HOWARD GARDNER of Harvard has identified seven distinct intelligences. This theory has emerged from recent cognitive research and "documents the extent to which students possess different kinds of minds and therefore learn, remember, perform, and understand in different ways," according to Gardner (1991). According to this theory, "we are all able to know the world through language, logical-mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or to make things, an understanding of other individuals, and an understanding of ourselves. Where individuals differ is in the strength of these intelligences - the so-called profile of intelligences -and in the ways in which such intelligences are invoked and combined to carry out different tasks, solve diverse problems, and progress in various domains."

Gardner says that these differences "challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform, universal measure suffices to test student learning. Indeed, as currently constituted, our educational system is heavily biased toward linguistic modes of instruction and assessment and, to a somewhat lesser degree, toward logical-quantitative modes as well." Gardner argues that "a contrasting set of assumptions is more likely to be educationally effective. Students learn in ways that are identifiably distinctive. The broad spectrum of students - and perhaps the society as a whole - would be better served if disciplines could be presented in a numbers of ways and learning could be accessed through a variety of means." **The learning styles are as follows:**

**Visual-Spatial** - think in terms of physical space, as do architects and sailors. Very aware of their environments. They like to draw, do jigsaw puzzles, read maps, daydream. They can be taught through drawings, verbal and physical imagery. Tools include models, graphics, charts, photographs, drawings, 3-D modeling, video, videoconferencing, television, multimedia, texts with pictures/charts/graphs.

**Bodily-kinesthetic** - use the body effectively, like a dancer or a surgeon. Keen sense of body awareness. They like movement, making things, touching. They communicate well through body

language and are taught through physical activity, hands-on learning, and acting out, role playing. Tools include equipment and real objects.

**Musical** - show sensitivity to rhythm and sound. They love music, but they are also sensitive to sounds in their environments. They may study better with music in the background. They can be taught by turning lessons into lyrics, speaking rhythmically, and tapping out time. Tools include musical instruments, music, radio, stereo, CD-ROM, multimedia.

**Interpersonal** - understanding, interacting with others. These students learn through interaction. They have many friends, empathy for others, street smarts. They can be taught through group activities, seminars, and dialogues. Tools include the telephone, audio conferencing, time and attention from the instructor, video conferencing, writing, computer conferencing, E-mail.

**Intrapersonal** - understanding one's own interests, goals. These learners tend to shy away from others. They're in tune with their inner feelings; they have wisdom, intuition and motivation, as well as a strong will, confidence and opinions. They can be taught through independent study and introspection. Tools include books, creative materials, diaries, privacy and time. They are the most independent of the learners.

**Linguistic** - using words effectively. These learners have highly developed auditory skills and often think in words. They like reading, playing word games, making up poetry or stories. They can be taught by encouraging them to say and see words, read books together. Tools include computers, games, multimedia, books, tape recorders, and lecture.

**Logical -Mathematical - reasoning, calculating.** Think conceptually, abstractly and are able to see and explore patterns and relationships. They like to experiment, solve puzzles, and ask cosmic questions. They can be taught through logic games, investigations, and mysteries. They need to learn and form concepts before they can deal with details.

At first, it may seem impossible to teach to all learning styles. However, as we move into using a mix of media or multimedia, it becomes easier. As we understand learning styles, it becomes apparent why multimedia appeals to learners and why a mix of media is more effective. It satisfies the many types of learning preferences that one person may embody or that a class embodies. A review of the literature shows that a variety of decisions must be made when choosing media that is appropriate to learning style.

*Visuals:* Visual media help students acquire concrete concepts, such as object identification, spatial relationship, or motor skills where words alone are inefficient.

*Printed words:* There is disagreement about audio's superiority to print for affective objectives; several models do not recommend verbal sound if it is not part of the task to be learned.

*Sound:* A distinction is drawn between verbal sound and non-verbal sound such as music. Sound media are necessary to present a stimulus for recall or sound recognition. Audio narration is recommended for poor readers.

*Motion:* Models force decisions among still, limited movement, and full movement visuals. Motion is used to depict human performance so that learners can copy the movement. Several models assert that motion may be unnecessary and provides decision aid questions based upon objectives. Visual media which portray motion are best to show psychomotor or cognitive domain expectations by showing the skill as a model against which students can measure their performance.

*Color:* Decisions on color display are required if an object's color is relevant to what is being learned.

*Realia:* Realia are tangible, real objects which are not models and are useful to teach motor and cognitive skills involving unfamiliar objects. Realia are appropriate for use with individuals or groups and may be situation based. Realia may be used to present information realistically but it may be equally important that the presentation corresponds with the way learner's represent information internally.

*Instructional Setting:* Design should cover whether the materials are to be used in a home or instructional setting and consider the size what is to be learned. Print instruction should be delivered in an individualized mode which allows the learner to set the learning pace. The ability to provide corrective feedback for individual learners is important but any medium can provide corrective feedback by stating the correct answer to allow comparison of the two answers.

*Learner Characteristics:* Most models consider learner characteristics as media may be differentially effective for different learners. Although research has had limited success in identifying the media most suitable for types of learners several models are based on this method.

*Reading ability:* Pictures facilitate learning for poor readers who benefit more from speaking than from writing because they understand spoken words; self-directed good readers can control the pace; and print allows easier review.

*Categories of Learning Outcomes:* Categories ranged from three to eleven and most include some or all of Gagne's (1977) learning categories; intellectual skills, verbal information, motor

skills, attitudes, and cognitive strategies. Several models suggest a procedure which categorizes learning outcomes, plans instructional events to teach objectives, identifies the type of stimuli to present events, and media capable of presenting the stimuli.

*Events of Instruction:* The external events which support internal learning processes are called events of instruction. The events of instruction are planned before selecting the media to present it.

*Performance:* Many models discuss eliciting performance where the student practices the task which sets the stage for reinforcement. Several models indicate that the elicited performance should be categorized by type; overt, covert, motor, verbal, constructed, and select. Media should be selected which is best able to elicit these responses and the response frequency. One model advocates a behavioral approach so that media is chosen to elicit responses for practice. To provide feedback about the student's response, an interactive medium might be chosen, but any medium can provide feedback. Learner characteristics such as error proneness and anxiety should influence media selection.

Howard Gardner has identified eight different types of intelligences that each individual has the capacity to possess. The idea of multiple intelligences is important **Definitions of Genius** because it allows for educators to identify differing strengths and weaknesses in students and also contradicts the idea that intelligence can be measured through IQ. In researching about genius, we found that Howard Gardner's theory of Multiple Intelligences provides a great alternative to the popular measurable IQ method.

### **Summaries of eight intelligences:**

1. Visual/Spatial - Involves visual perception of the environment, the ability to create and manipulate mental images, and the orientation of the body in space.
2. Verbal/Linguistic - Involves reading, writing, speaking, and conversing in one's own or foreign languages.
3. Logical/Mathematical - Involves number and computing skills, recognizing patterns and relationships, timeliness and order, and the ability to solve different kinds of problems through logic.
4. Bodily/Kinesthetic - Involves physical coordination and dexterity, using fine and gross motor skills, and expressing oneself or learning through physical activities.
5. Musical - Involves understanding and expressing oneself through music and rhythmic movements or dance, or composing, playing, or conducting music.
6. Interpersonal - Involves understanding how to communicate with and understand other people and how to work collaboratively.

7. Intrapersonal - Involves understanding one's inner world of emotions and thoughts, and growing in the ability to control them and work with them consciously.
8. Naturalist - Involves understanding the natural world of plants and animals, noticing their characteristics, and categorizing them; it generally involves keen observation and the ability to classify other things as well.

"Multiple intelligences is a psychological theory about the mind. It's a critique of the notion that there's a single intelligence which we're born with, which can't be changed, and which psychologists can measure. It's based on a lot of scientific research in fields ranging from psychology to anthropology to biology. It's not based upon based on test correlations, which most other intelligence theories are based on. The claim is that there are at least eight different human intelligences. Most intelligence tests look at language or logic or both - those are just two of the intelligences. The other six are musical, spatial, bodily/kinesthetic, interpersonal, intrapersonal, and naturalist. I make two claims. The first claim is that all human beings have all of these intelligences. It's part of our species definition. The second claim is that, both because of our genetics and our environment, no two people have exactly the same profile of intelligences, not even identical twins, because their experiences are different."

### **Individual tests – Verbal tests**

**Definition:** Verbal intelligence is the ability to analyze information and solve problems using language-based reasoning.

Verbal tasks involve skills such as:

- The ability to listen to and recall spoken information;
- Understanding the meaning of written or spoken information;
- Solving language based problems of a literary, logical, or social type;
- Understanding the relationships between language concepts and performing language analogies or comparisons; and
- The ability to perform complex language-based analysis.

Verbal reasoning is important in most aspects of school work. Reading and language arts tasks required verbal reasoning skills. Even the more abstract courses such as math and physics require verbal reasoning skills, as most concepts are either introduced orally by the teacher or introduced in written form in a textbook.



**Individual Tests:** A test can be said individual test in the sense that they can be administered to only one person at a time. Many of the tests in these scales require oral responses from the examinee or necessitate the manipulation of the materials.

Individual intelligence tests are preferred by psychologist in clinics, hospitals and other settings where clinical diagnosis are made, and where they serve not only as measures of general intelligence but also as means of observing behavior in a standard situation.

**Advantages:**

1. Examiner can pay more attention to the examinee.
2. Examiner can easily encourage the examinee and observe his behavior during the test more closely.
3. Scores on individual tests are not as dependent on reading ability as scores in group tests.

**Disadvantages:**

1. It is very time consuming
2. This type of tests requires a highly-trained examiner.
3. It costs more than the group test.

**VERBAL REASONING - COMPREHENSION EXERCISE**

Most employers who use psychometric tests in graduate selection will include a verbal reasoning test. This is because there are very few graduate careers which don't require the ability to understand, analyze and interpret written information, often of a complex or specialised nature.

This test includes a number of short passages of text followed by statements based on the information given in the passage. You are asked to indicate whether the statements are true or false, or whether it is not possible to say so either way. In answering these questions, use only the information given in the passage and do not try and answer them in the light of any more detailed knowledge which you personally may have.

Below you will find an example question to try. It is a selection of a passage of text which will be followed by four statements. Read the passage carefully and then, using only the information given in the passage, for each statement choose whether it is definitely true, definitely untrue, or you have insufficient information to answer.

The test has 32 questions and you will have 20 minutes to do them. At the end of the test (when 20 minutes have elapsed), you will be given a score. You can still continue answering questions for practice after this point, but your score will not change.

The test will start with four example questions which will not be marked or timed. Now click on the "First Question" button below to begin. Click on the button beneath your answer to answer it. You can change your answer by clicking on another button. You can also go back to the previous question, by clicking on the previous question button. When you have finished the test, click on "Get Your Score".

## WHAT YOUR SCORE MEANS

As mentioned before, this test is for practice only, so you should not regard your result as of importance chiefly because the test was not taken under proper test conditions e.g. in a silent room with no disturbances. Your performance can also be distorted if you have a cold, or have not slept well. Also, evidence shows that international students or those from ethnic minorities may be disadvantaged in this type of test, due to language and cultural differences. If your first language is not English, your score is likely to be lower on such verbal tests than native English speakers. Mature students may also sometimes be disadvantaged and you should remember that your degree subject may change your performance - for example scientists are likely to do better on mathematical tests and Humanities students on verbal tests. Even your ability to use a mouse may influence your score! Having said all this it is still natural for you to want some feedback on your performance.

### Score

- 21 or above. This is an above average score compared to other Kent graduates who have taken the test.
- 18 - 20. This is in the average group compared to other Kent graduates who have taken this test.
- 17 or below. This is below the typical score of Kent graduates who have taken the test, but remember that a number of factors may have distorted your score - see above for some of these factors. You may wish to discuss your results with a careers adviser.

The answers to this test are not confidential and are as follows:

- Until the nineteenth century, most people could only read with difficulty. Can't Say  
2. In ancient times, literature was intended to be read aloud. True  
3. Classical histories were passed on orally and never written down. False  
4. Only people with literacy problems now read aloud. True

Most illnesses in developing countries are caused by vitamin and mineral deficiencies. Can't Say

6. Micronutrients provide inadequate nourishment to maintain a healthy life. False

7. Vitamin A, iodine and iron are the only micronutrients that people need in their diet. Can't Say

8. Correcting micronutrient deficiencies would cost about \$2 per person per year. False

Only mild cases of asthma can be helped by anti-inflammatory therapy. False

10. Use of bronchodilators has been increasing since 1991. False

11. Doctors are reluctant to treat asthma with inhaled steroids for fear of potential side-effects.

Can't Say

12. Bronchodilators are the single most prescribed treatment for asthma. True

13. Political changes in Eastern Europe led to a change in relations between Sweden and the European Community. True

14. The European Community rejected Sweden's application for membership because of its neutrality. Can't Say

15. After abandoning its policy of neutrality, Sweden applied to join the European Community. Can't Say

16. Sweden applied for membership of the European Community after other neutral countries had joined. Can't Say

17. Buddhism was adopted by the court nobility at the urging of the emperor. False

18. The introduction of Buddhism to Japan led to great political unrest and social confusion. False

19. Buddhism replaced the Shinto religion which had previously been followed in Japan. Can't Say

20. Japanese arts and culture were greatly enriched by the introduction of Buddhism. True

21. Japanese men do not share household chores and childcare with their wives. True

22. A quarter of all part-time workers in Japan are female. Can't Say

23. Part-time workers hold a low status in Japanese companies. True

24. Women in Japan are unwilling to work overtime. Can't Say

25. There is no clear cause for abdominal pain in children. True

26. Abdominal pain in children may be psychosomatic in nature. True

27. Drinking milk may help to prevent abdominal pain in children. Can't Say

28. Children who have problems sleeping are more likely to suffer from abdominal pain. Can't Say

29. After the fall of the Roman Empire, most people who had previously spoken Latin stopped using it. True

30. Latin continued to be used in church services because of the continuing influence of Rome.  
False

31. Priests spoke a different language from the common people. True

32. Prior to the fall of the Roman Empire, Latin had been established by law as the language of the Church in western Europe. False

### Example reasoning for some of the statements

This type of verbal test often contains a degree of ambiguity, unlike mathematical reasoning tests where the answers are more definite. Although they are not intended to be trick questions, there is often room for argument in the interpretation of the answers. The tests on our web site are not rigorous and are offered to help users to practice this type of test and gain some familiarity. If you are a University of Kent student, you are welcome to come to the Careers Service to discuss these tests.

#### EXAMPLE A)

Cardiovascular disease is so prevalent that all businesses are likely to have employees who suffer from, or may develop, this condition. Research shows that between 50-80% of all people who suffer a heart attack are able to return to work. However, this may not be possible if they have previously been involved in heavy physical work. In such cases, it may be possible to move the employee to lighter duties, with appropriate retraining where necessary. Similarly, high-pressure, stressful work, even where it does not involve physical activity, should also be avoided. Human Resources managers should be aware of the implications of job roles for employees with a cardiac condition.

EXAMPLE A) is: Physical or stressful work may bring on a heart attack.

Use only the information given in the passage to choose whether the statement is definitely true, definitely untrue, or you have insufficient information to answer. Do NOT try to answer the question in the light of any knowledge which you personally may have. We must first take just the text in the passage which specifically relates to the above statement:

*High-pressure, stressful work, even where it does not involve physical activity, should also be avoided.*

This text in the passage does not clearly indicate that Statement A is definitely true: the statement does not say anything definite regarding whether physical or stressful work may bring on a heart attack, therefore the answer is that we CANNOT SAY: you have insufficient information to answer given just the information in the passage.

*EXAMPLE C)*

Cardiovascular disease is so prevalent that all businesses are likely to have employees who suffer from, or may develop, this condition. Research shows that between 50-80% of all people who suffer a heart attack are able to return to work. However, this may not be possible if they have previously been involved in heavy physical work. In such cases, it may be possible to move the employee to lighter duties, with appropriate retraining where necessary. Similarly, high-pressure, stressful work, even where it does not involve physical activity, should also be avoided. Human Resources managers should be aware of the implications of job roles for employees with a cardiac condition.

EXAMPLE C) is: Heart disease may affect employees in any type of business.

Use only the information given in the passage to choose whether the statement is definitely true, definitely untrue, or you have insufficient information to answer. Do NOT try to answer the question in the light of any knowledge which you personally may have. We must first take just the text in the passage which specifically relates to the above statement:

Cardiovascular disease is so prevalent that all businesses are likely to have employees who suffer from, or may develop, this condition.

Cardiovascular disease is of course another name for heart disease. Comparing these two statements, they mean almost exactly the same thing. This follows logically from the opening statement that virtually all businesses are likely to have employees who suffer from or may develop, this condition, so the answer here is true.

*Statement 7*

"Millions of lives around the world could be saved, and the quality of life of hundreds of millions markedly improved - very inexpensively - by eradicating three vitamin and mineral deficiencies in people's diets. The three vitamins and minerals are vitamin A, iodine and iron - so-called micronutrients. More than 2 billion people are at risk from micronutrient deficiencies and more than 1 billion people are actually ill or disabled by them, causing mental retardation, learning disabilities, low work capacity and blindness. It costs little to correct these deficiencies through fortification of food and water supplies. In a country of 50 million people, this would cost about \$25 million a year. That \$25 million would yield a fortyfold return on investment."

Statement 7 is: Vitamin A, iodine and iron are the only micronutrients that people need in their diet

Use only the information given in the passage to choose whether the statement is definitely true, definitely untrue, or you have insufficient information to answer. Do NOT try to answer the question in the light of any knowledge which you personally may have. We must first take just the text in the passage which specifically relates to the above statement:

"Millions of lives around the world could be saved, and the quality of life of hundreds of millions markedly improved .... by eradicating three vitamin and mineral deficiencies in people's diets. The three vitamins and minerals are vitamin A, iodine and iron - so-called micronutrients."

The key word here is only. The passage says that vitamin A, iodine and iron are very important micronutrients, but nowhere in the passage does it say that these are the only ones of importance, therefore the answer is that we CANNOT SAY: you have insufficient information to answer using just the information in the passage.

*Statement 14*

D) Relations between Sweden and the European Community had always been restricted in scope by Sweden's traditional neutrality and for many years any suggestion of Community membership was out of the question. But the upheavals in Eastern Europe in the early 1990s gradually led to the conclusion that membership of the EC was no longer incompatible with its neutral stance. People came to the conclusion that Sweden has already taken over a large part of the Community rules and began to weigh up the pros and cons of membership along the lines sought by Austria.

Statement 14 is: *The European Community rejected Sweden's application for membership because of its neutrality.*

Even though you may know that the European Community did not reject Sweden's application for membership, as it is not mentioned in the paragraph above, your knowledge should not have a bearing in your answer.

In the passage there is no mention whatsoever of Sweden's application to the European Community nor whether the European Community had considered it, nor their decision and therefore certainly no mention of the European Community's reasons.

The passage is from Sweden's perspective whether to join the European Community, not the European Community itself, and therefore it not possible to draw a reasonable conclusion as to what the European Community did or thought.

Therefore the correct answer must be: 'I have INSUFFICIENT INFORMATION to answer.



*Statement 22*

F) In Japan, companies generally expect their employees to put in long hours of overtime. But it is difficult for women, who also have household chores to do and children to take care of, to work at the same pace as men, who are not burdened with such responsibilities. Many women inevitably opt for part-time jobs, which enable them to combine work and domestic duties. At present, 23% of all female salaried workers are part-timers and the ratio has been on the rise in recent years. Part-time work places women at a disadvantage. The wages of part-time workers are considerably lower than those of full-time employees, and part-time work tends to involve menial labour. Moreover, because salary and promotion in Japanese companies are often based on seniority, it is extremely difficult for women either re-entering the labour force or switching from part-time to full-time work to climb the ladder.

Statement 22 is: A quarter of all part-time workers in Japan are female.

Use only the information given in the passage to choose whether the statement is definitely true, definitely untrue, or you have insufficient information to answer. Do NOT try to answer the question in the light of any knowledge which you personally may have. We must first take just the text in the passage which specifically relates to the above statement:

At present, 23% of all female salaried workers are part-timers and the ratio has been on the rise in recent years.

These two statements say very different things.  
Statement 22 says: one quarter of part-time workers are female.  
The passage says: about one quarter of female workers are part-time.

We have no information on the size of the total pool of part-time workers, nor any information of how many women work in relation to men. The 23% of all female salaried workers that are part-timers could make up 1% or 100% of the (genderless) part-time workers in Japan.

As these two statements mean different things, the statement is CANNOT SAY: you have insufficient information to answer using just the information in the passage.

*Statement 29*

H) When Christianity was first established by law, a corrupt form of Latin had become the common language of all the western parts of Europe. The service of the Church accordingly, and the translation of the Bible which was read in churches, were both in that corrupted Latin which was the common language of the country. After the fall of the Roman Empire, Latin gradually

ceased to be the language of any part of Europe. However, although Latin was no longer understood anywhere by the great body of the people, Church services still continued to be performed in that language. Two different languages were thus established in Europe: a language of the priests and a language of the people.

*Statement 29 is:* After the fall of the Roman Empire, most people who had previously spoken Latin stopped using it.

Use only the information given in the passage to choose whether the statement is definitely true, definitely untrue, or you have insufficient information to answer. Do NOT try to answer the question in the light of any knowledge which you personally may have. We must first take just the text in the passage which specifically mentions what happened after the fall of the Roman Empire.

'After the fall of the Roman Empire Latin gradually ceased to be the language of any part of Europe'.

As these two statements mean substantially the same thing, the statement is DEFINITELY TRUE, or would be a reasonable conclusion to draw from the passage.

### **Group Test:**

Group test was developed to meet a pressing practical need. Group test can be administered to a group of persons at a time.

Group tests were designed as mass testing instruments; they not only permit the simultaneous examination of large groups but they also use simplified instruction and administration procedures. There by requiring a minimum of training on the part of examiner

Advantages and Disadvantages of group tests:

#### **Advantages:**

1. can be administered to very large numbers simultaneously
2. simplified examiner role
3. scoring typically more objective
4. large, representative samples often used leading to better established norms
5. A highly verbal group test can have a higher validity co-efficient than an individual test.

#### **Disadvantages:**

1. Scores on the group test are generally dependent on the reading ability.
2. Information obtained by the group test generally less accurate than the individual tests
3. examiner has less opportunity to establish rapport, obtain cooperation, and maintain interest
4. not readily detected if examinee tired, anxious, unwell
5. evidence that emotionally disturbed children do better on individual than group tests
6. examinee's responses more restricted
7. normally an individual is tested on all items in a group test and may become boredom over easy items and frustrated or anxious over difficult items
8. Individual tests typically provide for the examiner to choose items based on the test takers prior responses – moving onto quite difficult items or back to easier items. So individual tests offer more flexibility.

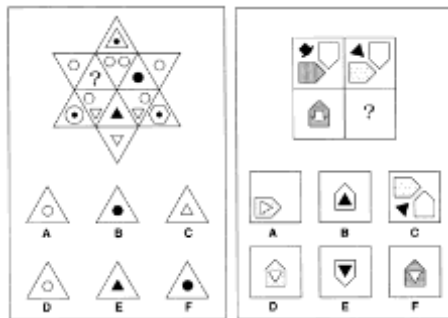
### **Non-verbal reasoning tests**

Group intelligence tests requiring recognition of similarities, analogies and patterns in unfamiliar designs, are referred to as non-verbal reasoning (NVR) tests. Like verbal reasoning tests, NVR tests are comprised of a variety of item types, including series completion, codes and analogies. However, unlike verbal reasoning tests, none of the question types requires learned knowledge for its solution. In an educational context, these tests are typically used as an indication of a pupil's ability to understand and assimilate novel information independently of language skills. Scores on these tests can indicate a pupil's ability to learn new material in a wide range of school subjects based on their current levels of functioning. These tests have high reliability, typically in the region of 0.90 to 0.95, and good predictive validity, i.e. they are relatively good predictors of future academic attainment.

NVR tests have been widely used to measure general intellectual ability for many years and have been subject to continual development by theorists. Spearman (1927) proposed a 'two factor' theory of intelligence, whereby all test questions contained a general intelligence factor known as 'g' and another factor specific to each question, and it is this general intelligence factor 'g' which Spearman suggests represents reasoning ability. Vernon (1950) developed a hierarchical model of intelligence, which stemmed from the earlier work by Spearman. Vernon proposed that the general intelligence factor 'g' could be divided into two group factors, a spatial-mechanical-practical factor and a verbal-educational factor, both of which were further divided into sub-factors. In comparison, Guilford (1967) adopted a model in which several equally important factors ran in parallel with each other, 'general reasoning' being identified as one of these factors. Cattell (1963) however, defined NVR as a 'fluid-general intelligence', which involves the ability to reason with novel material, without the need to draw on learned knowledge. Cattell believed measures such as NVR tests could be

considered 'culture fair' and thus provide a more appropriate measure of general intelligence, compared with verbal reasoning tests, for test takers not fluent in the language being used.

The following are **two** relatively straightforward examples of non-verbal reasoning questions:



### USE, MISUSE AND ABUSE OF INTELLIGENCE TEST

The role of intelligence testing in school psychology. Potential benefits and drawbacks, and possible negative side effects associated with its use. Intelligence testing should not be the first line response to an education problem. IQ test should not be used to answer 'yes', 'no' questions. The author cites Berninger (2002) as the best predictors of whether a child was a fast or slow responder to intervention were language skills, including phonological processing, rapid naming and orthographic skills. Dawson administers assessments to learn a great deal in a short period of time about a child and the factors that affect their learning. Counting words read correctly per minute- and building intervention strategies around how to improve fluency- is probably the best single way to think about reading intervention.

### What is the motivation?

Motivation – a way to do what you do not want. This thing is completely unnecessary in if you like something. For example, if the kid likes to play computer games it is absolutely not necessary for it to motivate. He calmly gets along without it. But if he needs to prepare for exams or wash the floor ...

The motive, motivation, motivation

Human needs are conditional, mobile, are virtual. Virtuality needs that each contains and it's other, the moment of self-denial. Due to the variety of conditions of realization, age, environment, biological need becomes a material, social or spiritual, that is, transformed. The parallelogram needs (biological need, material and social – spiritual) primacy becomes that need

that best suits personal meaning of human life, better armed means your satisfaction that is one that is better motivated.

The transition from the needs of the activities of a process of change in the direction from the inside to the needs of the environment. At the core of all activities are motivations for her rights, but not all activities can satisfy a motive? The mechanism of this transition include: 1) the selection and *motivation* of the subject needs (motivation – the subject of study to meet the needs); 2) the transition from requirements to the activities of the need to transform the target and interest (perceived needs).

**Thus, the need and motivation are closely related:** the need to stimulate people to work, and is always a component of the motive. The motive and the identity of the person

The motive – that's what motivates people to work, directing it to meet specific needs. The motif is a reflection of the needs, which acts as an objective law, an objective necessity.

**For example**, as a motive can act as persistent work with excitement and enthusiasm, and the avoidance of carrying protest.

As motives may serve the needs, thoughts, feelings, and other mental education. However, for the activities are insufficient inner motives. It should be the object of activity and correlate urges with the goals that the individual wants to achieve as a result of activities. *The motivational target field with particular clarity serves social conditioning activities.*

Under need-motivational sphere of the person | need-motivational sphere of personality is understood the totality of motives, which are formed and developed during the life of the person. Overall, this sector is dynamic, but some reasons are relatively stable and subjugating other motives, form a sort of pivot of the whole sphere. These motives manifest orientation of the person.

### **The motivation of the person and the person**

Motivation – a set of internal and external driving forces that motivate a person to act a specific, targeted manner; process of encouraging yourself and others in the activities to achieve the organization's goals or personal goals.

The concept of “motivation” is broader than the concept of “motive”. *Motive, unlike the motivation* – is something that belongs to the subject of behavior, it is sustainable personal property inside encouraged to perform certain actions. The concept of “motivation” has a double meaning: firstly, a system of factors influencing human behavior (needs, motives, goals,

intentions, etc.), and secondly, the characteristics of process, which encourages and supports behavioral activity in a particular level.

The motivational sphere stands out:

- motivational system cards – total (holistic) organization of all activities driving forces underlying the behavior of the person, which includes components such as the needs, the actual motives, interests, inclinations, beliefs, goals, attitudes, stereotypes, norms, values, etc. .;
- achievement motivation – need to achieve high performance behaviors and satisfaction of all other requirements;
- Motivation of self-actualization – the highest level in the hierarchy of motives of personality, consisting in the need of the individual to the fullest realization of their potential, in need of self-realization itself.

Worthy goals, future plans, good organization will be ineffective unless it is in the interest of performers for their implementation, i.e., motivation. The motivation can compensate for many shortcomings of other functions, such as deficiencies in the planning, but weak motivation is almost impossible to compensate for something.

The success of any activity depends not only on skills and knowledge, but also the motivation (the desire to work and achieve good results). The higher level of *motivation* and activity, the more factors (i.e., motifs) encourage people to work, the harder it is inclined to apply.

*Highly motivated individuals work more, and usually achieve better results in their work. Motivation* – this is one of the most important factors (along with the abilities, knowledge, skills) that ensure success in the activity.

It would be wrong to consider the motivational sphere of the person only as a reflection of the totality of her own individual needs. Requirements related to the individual needs of the society, formed and developed in the context of their development. Some of the needs of the individual can be regarded as the individualized needs of the public. In the field of personality motivation somehow reflected her personality, and social needs. The form of reflection depends on what position the individual occupies in the system of social relations.

## **Motivation**

Motivation – is a process of influence on a person with a view to urging it to certain actions by the activation of certain motifs.



There are two basic types of motivation:

- External influence on a person with a view to urging it to produce certain actions that leads to the desired result. This resembles a bargain: “I am giving you what you want, and you satisfy my desire”;
- The formation of a certain motivational structure of man as a type of motivation is educational and educational character. Its implementation requires a lot of effort, knowledge, abilities, *but the results are superior to the results of the first type motivation.*

### **The main reasons for a person**

Arisen needs make people actively looking for ways to meet them, become internal driving force of activities or motives. Motive (from the Latin. Mover – propel, push) – that’s what motivates a living being, for what it spends its vital energy. Being indispensable “fuse” all actions and their “combustible material”, the motive has always stood at the level of worldly wisdom in various representations of the feelings (pleasure or displeasure, and others.) – Motives, instincts, ambitions, desires, passions, strength of will.

Motives can be different: interest in the content and process activities, debt to society, assertiveness, etc. Thus, the scientist in science may encourage the following reasons: self-realization, cognitive interest, self-assertion, financial incentives (monetary compensation), social motives (responsibility, the desire to benefit society).

*If a person seeks to perform a certain activity, we can say that he has the motivation.* For example, if the student is diligent in learning – it has motivation to learn; an athlete who strives to achieve good results – a high level of achievement motivation; Head of the desire to subordinate indicates a high level of motivation to power.

Motives – is relatively stable manifestation of personality attributes. For example, claiming that a certain person is inherent cognitive motive, we mean that in many cases it has shown cognitive motivation.

The motive cannot be explained by itself. It can be understood by the system of the factors – image, relationships, and actions of individuals that make up the overall structure of mental life. Its role is to give impetus to the behavior and direction to the target.

### **Encourage factors can be divided into two relatively independent classes:**

- needs and instincts as a source of activity;
- Motives as causes that determine the orientation of behavior or activity.

Need – is a necessary condition for any activity, however, the need itself is not able to set a clear direction of activity. For example, the presence of human aesthetic creates a corresponding need for selectivity, but it does not indicate what a person will do to meet this need. Perhaps he will listen to music and, possibly, will try to write a poem or paint a picture.

The concept of different needs and motivations ? In analyzing the question of why the individual into a state of general activity manifestations needs considered as sources of activity. If we study the question of what the activity is directed, for which selected these actions, deeds, it is primarily investigated manifestations of motives (as motivating factors that determine the activity or behavior). Thus, the need to encourage activity and motive – to the area of activity. We can say that the motive – a motive for activities related to meeting the needs of the subject. A study of motives of educational activity among schoolchildren has revealed a system of different motives. Some reasons are the main, leading, others – minor, side, they have no independent value and are always subordinate to the master. One student exercises leading motive may be to gain credibility in the classroom, the other – the desire to get higher education, the third – the interest in knowledge itself.

How to emerge and develop new needs? As a rule, every need objectified (and specified) in one or more subjects who are able to meet this need, such as aesthetic needs can objectify on the music, and in the process of development can objectify and poetry, that is, Objects can no longer satisfy her. Hence, the need to develop in the direction of increasing the number of items that are able to satisfy it; change and development needs going through change and development items that they are responsible and in which they objectified and specified.

Motivated person means affect its important interests, to create conditions for him to realize themselves in the process of life. For this, one should at least: be familiar with the success (success – is the realization of goals); to be able to see themselves in the results of their work, to realize themselves in work, to feel important.

But the meaning of human activity is not only to obtain results. Engage can work by itself. A person may appeal to the implementation process of activities, such as the manifestation of physical and intellectual activity. Like the physical activity, mental activity itself brings a person pleasure and is a specific need. When the subject of the activity encourages the process, not the result, it indicates the presence of the procedural component of motivation. In the process of studying the procedural component assigned a very important role. The desire to overcome the difficulties in training activities, test their strength and ability can become personally meaningful motif study.

At the same time productive motivational setting plays an organizing role in the determination of activity, especially if its procedural component (i.e., the process of activity) causes negative

emotions. In this case, the four goals, intentions, that mobilizes human energy. Setting goals, intermediate jobs – is a significant motivational factor that should be used.

To understand the essence of the motivational sphere (se composition, structure, having a multi-dimensional and multi-level nature, dynamics) it is first necessary to consider the connections and relationships with other people, given that this sector is formed under the influence of society – its rules, regulations, ideology, policy, etc...

One of the most important factors determining the motivational sphere of personality – a person belonging to any group. For example, teens who are interested in sports, different from their peers who are fond of music. As any person enters a number of groups and in the process of development of the number of groups increases, of course, vary and motivational sphere. Therefore, the emergence of motives must not be considered as a process resulting from the internal sphere of the individual, but as a phenomenon associated with the development of its relations with other people. In other words, the change of motives is determined not by the laws of the spontaneous development of the individual and the development of its relations and communications with people, with society as a whole.

### **The motives of the person**

The motives of the individual – is the need (or the system needs) as a function of the individual motivations. Internal psychological inducement to activity behavior caused the actualization of particular needs of the individual. Dejatelnostno motives can be very different:

- organic – designed to meet the natural needs of the body and are associated with growth, self-preservation and development of the organism;
- Functional – met by all sorts of cultural forms of activity, such as exercise;
- material – encourage people to work, aimed at creating household items, and tools of different things;
- social – generate a variety of activities aimed at to occupy a certain place in society, to gain recognition and respect;
- Spiritual – are the basis of the types of activities that are related to human cultivation.

**Organic and functional motifs together constitute the motivation of behavior and activity of the person in certain circumstances and cannot simply influence, but to change each other.**

Human needs are manifested in concrete forms. People may have different aware of their needs. Depending on the motives that fall into the emotional – desire, desire, desire, etc. and rational – aspirations, interests, ideals, beliefs.

There are two groups of interconnected motifs of life, behavior and activity of the person:

- Generalized, the content of which expresses the needs of the subject and thus focus aspirations of the individual. The strength of this motive is due to the significance of the person subject to his needs;
- Instrumental – motives selection ways, means, methods, or achieve the objective of due not only to the individual requirement of the state, but also its readiness, availability of capacity to operate successfully on the implementation of the objectives under these conditions.

There are other approaches to the classification of motives. For example, the degree of social significance of isolated motifs broad social plan (ideological, ethnic, professional, religious, etc.), the group plan and individual and personal character. There are also motives of achievement, avoiding failures motives approval affiliation (cooperation, partnership, love).

Motives not only encourage a person to act, but also give his actions and the actions of the personal, subjective meaning. In practice, it is important to bear in mind that the people making the same form and subject the results of actions, often guided by different, sometimes opposing motifs give a different value to his personal behavior, actions. According to this assessment and actions must be different: the moral and legal.

Types of motives of personality

By consciously justified reasons should include values, beliefs and intentions.

Value

Value – a term used in philosophy to refer to the personal, socio-cultural significance of certain objects and phenomena. Values of the individual form a system of its value orientations, the internal structure of the individual elements that are very important to her. These value orientations form the basis of consciousness and activity of the individual. Value – personally colored relationship to the world, appearing not only on the basis of knowledge and information, but also their own life experiences. Values give meaning to human life. The continuing importance of the world's human value orientations has faith, will, and doubt ideal. Values - part of the culture obtained from parents, family, religion, organizations, schools and the environment. Cultural values - is widely supported by the belief that determine what is desirable and what is true. Values can be:

- Self-oriented – that relate to the individual to reflect its objectives and the overall approach to life;

- other-oriented, reflecting the desire of society, on the relationship between individuals and groups;
- Oriented environment that capture the imagination of society about the desired relationship of the individual with its economic and natural environment.

### Creed

Persuasion – this theme of practical and theoretical activities grounded theoretical knowledge and all human outlooks. For example, a person becomes a teacher, not only because it is interesting to transmit knowledge to children, not only because he loves working with children, but also because it knows how much in the creation of a society depends on the education of consciousness. This means that he chose his profession not only because of the interest and inclination to it, but by conviction. Deeply grounded beliefs persist throughout a person's life. Beliefs – the most generalized motives. However, if the generalization and sustainability – the characteristics of the properties of the individual, the belief cannot be called motifs in the accepted sense of the word. The motive becomes more generalized; the closer it is to the property of the individual.

### Intention

The intention – to make conscious decisions to achieve a certain goal with a clear view of means and methods of action. There are combined incentive to action and planning. Intention organizes human behavior.

The above types of motifs cover only the main manifestations of motivational sphere. In reality, there are so many different reasons, as much as possible human-environment relationship.

## **Need vs. Drive**

Need and drive are concepts in psychology that are used to describe human behavior. Most of us are comfortable with the idea of need as something that is necessary for our existence. There are also emotional and social needs apart from our physiological needs that require fulfillment. It is the concept of drive that confuses many people because of its similarities with needs. What is it that drives people to behave in the manner that they do? Is it their needs, wants, or something else?

### **Need**

We need to do something that is necessary. We also have needs that are physiological, social, and emotional. There are needs that are pressing and urgent, but there are also needs that are not immediate but also intermediate such as the need for a safe environment, need for recreation,

need for insurance etc. There are also other so called needs that are not even needs per se but rather our wants such as a big house, a big car, and vacations in exotic locations abroad, and so on. It is these wants that make us work hard all our life to be able to satisfy these needs. We are motivated to keep working to achieve these goals that we set for ourselves in life.

## **Drive**

Drive is a state of mind that gets arisen from a need. When we are hungry, we are motivated or driven to act in ways that will help us in satisfaction of hunger. However, hunger is a primary drive. It is a state of imbalance that activates an organism to work in ways so as to achieve balance. If we think according to this theory and conceive of a situation when the primary drives of hunger, thirst, and sleep are satisfied, there is no drive for the organism until that achieves some imbalance. This theory called drive reduction was developed by Clark Hull and explained the motivation through drive reduction.

**According to Clark Hull**, human beings work to reduce the state of tension. Once a behavior is successful in reduction of drive, the likelihood of repetition of that behavior in future increases. Clark's theory of drive reduction is no longer considered important as it failed to explain complex human behaviors. For example, activities like skydiving and scuba diving actually increase the state of tension rather than helping in reducing the drive.

There are both biological drives such as hunger, thirst, sex etc. that dictate our behavior that takes us closer to the satisfaction of these drives and secondary or unlearned drives such as fear and curiosity that make us behave accordingly. In fact, curiosity is one drive that keeps human beings search, explore and learn new things in life.

## **What is the difference between Need and Drive?**

- Need is a requirement that has to be fulfilled.
- It is our needs that create a state of arousal called drive.
- Drive keeps us motivated and working to fulfill the need.
- If we are driven by our need for achievement (money, fame, property), we keep working to fulfill this need.
- Needs are biological, emotional and social.
- Drive reduction theory was proposed by Clark Hull, to explain our behavior and motivation.

## **The needs are of different kinds:**



For our physiological well being food, drink and sleep are really essentially. Our body cannot survive without these things. So while there is want of food, the man becomes victims of hunger. Apart from this, there are also psychological and social motives. For e.g., it is very difficult to remain in the society without love and praise. So needs may be physiological and psychological. Need is the first step in the motivation. Need gives rise to drive condition?

The feeling of lack of something is called the need. Every individual has basic needs and in order to gratify, he activates. The basic physiological needs are those of food, water, sleep and sex, etc. and the mental or social needs include fame, affection, security, adequacy, social approval, etc. Maslow has presented a clear hierarchy of needs.

According to him, if the basic physiological needs are well met, the individual is able to meet the higher level needs more efficiently. Maslow's hierarchy of needs is as given below:

**The mental tension that arises, due to the need is the drive:**

When there is need for food, the state of hunger crops up. Hunger and thirst give rise to a stage of tension, restlessness, and some awkward feelings. Thus mental balance gets upset. The hungry man feels the pang of hunger and restlessly searches for food the thirsty man feels the pang of thirst and searches for water. The sexually deprived person searches after the satisfaction of his sex desires.

**The person of the lower status** remains in an unpleasant mental tension and tries to establish himself in a better, higher status. Thus the act of impelling the organism to activity is the chief factor of drive. Like needs drive also can be physiological and psychological.

Psychological drives are acquired but physiological drives stronger are really in born. Physiological drives like hunger, thirst and sex are stronger than the psychological drive. Man cannot overlook physiological drives.

Drive originates from needs and is in fact the psychological consequence of a need. The drive set in motion the compensatory activities whenever the internal physiochemical balance is threatened by unfavourable temperature, lack of food, water, excess of waste products, toxins' etc.

**Incentives:**

Incentive is an object or response of others that can fulfill the need and decrease the tension due to drive condition. Food in case of hunger, water in case of thirst and member of the opposite sex in case of sex drive are said to be incentive which satisfy their respective physiological need.

When incentive is achieved, the severity of drive gets decreased, the mental tension withers away and balances of body and mind is restored. According to Hilgard, in general, an appropriate incentive is one that reduces the intensity of a drive.

### **Relation between Need Drive and Incentive:**

Need and drive are the internal stages of the organism whereas intensives exist in the external world. Drive is created thanks to need. Because of the drive condition, tension is felt. To avoid this tension, the organism is put to action. By virtue of this action, the intensive is obtained.

As soon as the incentive is obtained, the need no longer remains and the drive and the tension are decreased. Like this, any activity that is caused due to some need ends only when the need is fulfilled by the achievement of incentive. Thus need, drive and incentive are factors involved in the process of motivation. This process starts with the achievement of the incentive. This is called need-drive-incentive formula.

### **For example:**

Suppose there is lack of water in the body. So there is need for water. Due to want of water in the body, there is also want of water in the blood. Hence, there is lack of salivation inside the mouth. Because of this mouth and vocal cord become dry. Due to the need of water, there occurs this physiological disequilibrium. This physiological disequilibrium has the influence on the mind too.

As a result the individual experiences the state of drive within him. He feels thirsty and does some activity to quench the thirst. By dint of his action he gets water. Here water serves as an incentive by which physiological disequilibrium disappears and the thirst is quenched. In this way search for water is a motivated activity where there is the feeling of thirst and the purpose to get water. Likewise in other motives like hunger, sex and sleep, etc. need drive and incentive are also present being inter-related with each other.

Human motives are complex and unlimited. Need gives birth to motive. Hence, there are many internal activities that occur due to the motive. Some motives are inborn and some are acquired through experiences.

These inborn motives are called the innate motives and the second kind is called the acquired motive. Hunger, thirst, sex, sleep and the desire to eliminate stool and urine, the tendency to save oneself from danger are included in the innate motives.

## **How and Why Teachers Should Motivate Students**

Motivation is a psychological feature that evokes a desire to achieve a certain goal. Students have different goals on their studies. Teachers spend most time with students and should be able to motivate them towards achieving their goals. There are numerous ways that teachers can implement this.

### **1. Rapport/Constant communication**

Keeping in touch with students is key to knowing their worries. Teachers should not be afraid to ask the hard questions to their students. Look for a way to strike rapport with your students especially the reserved ones. The questions could help unearth a problem or challenge facing a student. Some kids have low self esteem and only a one on one session with a teacher helps them open up what is disturbing them.

### **2. Switching teaching strategies/Materials.**

Teachers need to vary their teaching methods teaching and never stick to one. For example, a text can be read, acted, turned into a poem, into informative flyers and adverts!!!!A single repetitive method of teaching is boring to any student. Some of the ways of teaching are classroom participation, alliteration, demonstrations and checking for understanding (CFU'S). Switching of teaching methods takes into consideration the slow learners as well as the fast learners. Employ the strategy that brings your particular lesson alive for all taking into consideration their abilities. Group challenges work better than pinpointing a particular student to answer questions – and, students love group work, try them!! Change, introduce, improvise and source teaching aids. Students will enjoy making aids if you describe what you need – include them. Move out of traditional white or black board.

### **3. Reinforcement**

Praise and reward students upon achieving a target. Everyone loves praise! Students get motivated when they are rewarded for hard work. This could be as little as having their names read out during assembly or putting their names on notice board also makes them feel great! If your school has a school magazine, you could publish the top performers in your subject/ class or activity in a magazine. Organize a road trip for the whole class to museums, game parks or monuments for maintaining discipline for a whole term. Before any reward is given, students should know a teacher's expectations.

### **4. Sanctions**

Interestingly, sanctions work as well as reinforcement. When you withhold favor/treats until a task is accomplished or a grade achieved, you are motivating the learner to push his abilities. Careful though! the targets must be achievable. If you use sanctions against unachievable targets, the opposite happens – the learner becomes demotivated and can even become resentful if everyone else gets the favor and he is left out.

## 5. Flexibility

Don't be overly bossy as a teacher. Be a child at times – children are spontaneous. Create opportunities for students to express themselves in a non learning environment. This way, you learn them; their needs, their soft spots, strong points, their social skills and so on. Now, when you know all these, you are in a better position to tackle issues in their world which could be interfering with their academic performance. This can be done by picking on a day in the week to do an extraordinary activity. Of course you need to ensure that scheduled learning is not disrupted. Surprise the whole class with a birthday gift/celebration for a student.

You don't have to be the best paid teacher, the school head, and work in a rich school or have the best resources as can be found in stores in order to have a motivated class!! You just need to realize the wonders that motivation performs on learner performance. And it's spiral! A motivated class makes a motivated teacher

## Strategies

### Motivating Students to Learn

As memories of Spring Break fade and we head into the final stretch of winter term, it's a great time to think about student motivation. How effectively are your courses engaging your students and motivating them to learn?

While it can sometimes feel that students simply choose to be engaged or apathetic for their own reasons, the research on motivation clearly indicates that instructor choices significantly affect students' investment in learning. And motivation plays a key role in how effectively students master course material.

1. See the value, either intrinsic or extrinsic, of learning the particular material or skills, and
2. Believe they can succeed.

## UNIT 4

### **Type approach**

Psychologists who believed in this approach are of the opinion that people can be divided into definite types. Attempts to classify personality in terms of specific types go far back in human history. Hippocrates developed a theory of personality types based on the pre- dominance of one of the four humours or fluids of body they are blood, yellow bile, black bile, phlegm. Pre-dominance of blood leads to choleric personality, if the yellow bile is pre- dominant it leads to sanguine personality. Black bile indicates melancholic, the pre - dominance of phlegm leads to phlegmatic personality. Most recent theories have emphasized the relationship between body characteristics or morphology and personality. The best known theory of this type was the one given by **Kretschmer**. Kretschmer described the three types of physique he believed to be basic. The first type was the one short and heavy set and this was referred to as pythnic type, the second was called the athletic type which was divided as having a strong development of skeleton and muscle with wide shoulders and chest. The third type is called aesthelic who is slender in body build and tall. From his study of mental patience Kretschmer found that certain body types are associated with certain types of mental disorder. For example pythic is associated with manic depressive psychosis. The aesthetic is associated with schizophrenia and the athletic if he were to be abnormal may develop mild manic depressive psychosis.

Sheldons classification is primarily based on Krehsehmer's theory. He tried to correlate temperament with body type. According to Sheldon there are three basic types

- Endomorph, a person of relatively large body and short arms and legs.
- Mesomorph, harmoneously proportioned and mostly bone and muscle
- Ectomorph, who has long arms and legs and often skinny.

An individual's body form is expressed as the degree of endomorphy, mesomorphy and ectomorphy which he shows. The strength of each component is indicated on 7 point scale for example and individual who scores maximum in the first dimension can be called endomorph in his score is 7 - 3 - 1. Another individual may have only 3 - 1 - 7 and he is called mesomorph. Yet another individual may have only 3 - 1 - 7 can be called ectomorph.

**Sheldon** classify temperaments into three types namely

- Viscerotonia
- Cerebrotonia
- Somatotonia

**Each of this can be measured by a 7 point scale.** Viscerotonia is characterised by love of comfort and food, sociability (friendly) and affection. Cerebrotonia indicates excessive inhibition and love of solitude. Somatotonia indicates a craving for muscular activity. Sheldon found high correlation between body types and temperament types. Thus endomorphy is closely related with viscerotonia, mesomorphy with somatotonia and ectomorphy with cerebrotonia.

In spite of this laborious work, this theory is being much criticized and other investigators have not obtained the same results

Spranger classifies people according to a philosophy of life. It is assumed that people accept certain values which unify their personalities. He classified people into six types

- Theoretical type: is more interested in intellectual pursuit and discovery of truth. He becomes either a scientist or a philosopher.
- The economic type is more interested in material things in useful things.
- Aesthetic type is more interested in beauty and form.
- The social type is interested in human relationships and virtues.
- Political type is more interested in power and wants to influence people in every walk of life.
- The religious type is interested in finding an ultimate meaning.

**C.G.Jung's** classification is based on concept of libido the life energy. According to Jung the people can be divided into two types namely introverts and extroverts. If the libido is flowing inward the individual is called introvert. In an extrovert the libido is flowing outward. An introvert tends to withdraw into himself inhibits emotions. An extrovert mixes freely with others and expresses emotions freely. Later psychologists criticize the theory given by Jung, they added one more type namely 'ambivert' who has the qualities of both introvert and extrovert.

### **Trait approach second method**

The measurable aspect of personality is referred to as a trait. Traits are nothing but qualities found in an individual's behaviour usually adjectives are paired with opposites in order to avoid multiplicity of the qualities for example ascendant submission friendly hostile.

According to Cattell traits are of two types namely surface traits and source traits, the surface traits are the qualities of misbehaviour that are observed directly in action for



example restlessness, timidity, high emotionality source traits cannot be observed directly and they determine the surface traits for example the feeling of insecurity. Other psychologist have classified the traits of personality as central traits and secondary traits. Traits approach tends to be to analytical and no analysis can do full justice to the most complicated and dynamic concept namely personality.

## **ALLPORT TRAIT APPROACH**

According to trait theorists, like Gordon Allport, your personality is made up of the traits you possess. A trait is a personal characteristic we have which stays generally the same overtime and is resistant to changing. Jane has several identifiable traits that relate directly to her personality. She could be described as kind, welcoming, feisty, independent, and adventurous. These traits shape her thoughts, feelings, and the way she behaves on any given day.

So how do we develop the traits that characterize our personalities? At one time, it was thought that personality was entirely either shaped by unconscious (outside of our awareness) motivations, or that personality was solely determined by what environment you were in. To see personality as a continually-shaped combination of traits the way that we do now was somewhat radical. That change in perspective can be credited to Gordon Allport.

### **Gordon Allport**

Gordon Allport was a highly-regarded and influential American scholar in the field of psychology. Born in 1897, he came from a hard-working family who valued health and education. This translated into Allport's desire to understand human motivation, drives, and personality. After earning his undergraduate degree from Harvard, Allport took a trip that would end up shaping his career and contributions to American psychology: he traveled to Vienna, Austria, and met Sigmund Freud.

After that experience, Allport went back to Harvard to earn his Ph.D in psychology. Throughout this career, which spanned the first half of the 20th century, he made significant contributions to psychology theory, not the least of which was the development of his ideas on personal traits, which he later called personal dispositions.

According to Allport, these traits are influenced by our childhood experiences, our current environment, and the interaction between the two. In Allport's time, the idea that your personality traits could be shaped by both past and current forces was novel. Allport believed that your personality was made up of three types of traits: cardinal, central, and secondary.

## Cardinal Traits

Cardinal traits are characteristics that dominate your personality and strongly influence your thoughts, feelings, and behaviors. They are so pervasive and defining of your personality that you might have a reputation based on this trait. Cardinal traits are often so strong that they impact or even control other people. Allport believed that not everyone has a cardinal trait and that their existence is relatively rare. Instead, he believed most people's personalities are shaped by multiple important traits versus one powerful and all encompassing one.

Popular historical examples of cardinal traits can be seen in Hitler and Mother Teresa, each clearly possessing opposite cardinal traits of ruthlessness and selflessness. As seen with these examples, cardinal traits clearly and profoundly shape a person's life and their relationships with others. However, cardinal traits can be found in regular people, too.

For instance, everyone at the office knows Mark can't be trusted. Given the opportunity, he will stab you in the back to get ahead. Several times, he has overheard your ideas at lunch and then passed them off to the boss as his own. One time, he intentionally sabotaged your presentation before the CEO just to make you look incompetent and then swooped in with his own presentation to save the pitch. He also sucks up by picking up his boss' dry cleaning and coffee. He tells the boss everything he hears other employees say. Mark is so filled with greed that he will step on anyone to get ahead, even you, and maybe even his own wife and kids.

Mark clearly has a cardinal trait that drives the majority of his actions, and drives others far away from him.

## Central Traits

Central traits are the characteristics that combine to shape most people's personalities. They're much less dominating and pervasive than cardinal traits. These general traits are found in most people but on different levels. For example, we are all either more or less shy or more or less conscientious. Allport believed each person's personality is generally determined by 5-10 of these central traits. These traits are somewhat influenced by the environment you are in, but tend to be fairly consistent. Central traits are those characteristics that easily come to mind when describing a friend that you have.

David is soft-hearted and will give you the shirt off his back. He has worked hard as a bricklayer his whole life to provide for his family. However, he also has a short temper. If you make him angry, he'll fire some irritated words your way. Although he's quick to anger, he's quick to forgive. One minute he is upset at you and the next, is offering you a snack cake.

David has several central traits that shape his personality. He is hard-working, soft-hearted, generous, quick-tempered, and forgiving.

## Secondary Traits

Secondary traits have the weakest impact on personality and are often driven by aspects of whatever environment you are in. They are the most numerous of each type of trait because each trait might only be apparent in a specific environment. Secondary traits help us understand inconsistencies and how someone can behave differently in different environments, or differently than how they usually do.

Our final example: Connor is a social butterfly. He will strike up a conversation with just about anyone he meets. He has several close friends, lots of acquaintances, and is very close to his family. Connor loves to talk about anything, with anyone, for as long as you will allow him. However, this all changes for him on the rare occasion he's asked to give a speech at the company picnic. Once he gets in front of the microphone, he freezes.

Connor is a great example of that although he is generally outgoing, having to give a public speech terrifies him. In that specific environment, instead of having the gift of gab, he is tongue-tied.

## Lesson Summary

Gordon Allport was a highly influential 20th century scholar in the psychology of personality. He was radical in theorizing that people's personalities weren't just made up solely of unconscious motivations or their current environment, but the combination and interaction of the two. He believed personality was shaped by traits, or enduring characteristics, which are consistent over time and difficult to change. He divided these personal dispositions into three categories: cardinal traits or characteristics which dominate your personality and strongly influence your thoughts, feelings, and behaviors; central traits, characteristics that combine to shape most people's personalities; and secondary traits, or characteristics often driven by aspects of an environment or circumstances.

## Raymond B. CATTELL

- Born & raised in England. Studied & worked in U.S.A.
- Studied chemistry before beginning his psychology career
- Experiences as a soldier persuaded him to study human beings
- Argued strongly for empirical methods for studying personality
- Developed *factor analysis* for the study of personality

Cattell & Allport worked together at Harvard & had similar views:

- Traits explain behavior.
- Traits are "mental structures" that explain consistency.
- Traits are organized hierarchically.
- Some traits are inherited.

Cattell used factor analysis to study personality

Discovery of source traits the most important goal of personality psychology.

**Source traits** are underlying, broadly influential. Basic building blocks of personality.

**Surface traits** are easily observable clusters of behavior. Surface traits should group together under larger source traits.

#### **Factor analysis:**

- 1) Derives source traits from surface traits.
- 2) Summarizes large data sets with a few dimensions.
- 3) Dimensions are called *factors* & represent intercorrelations among multiple personality traits.

#### **Cattell's data sources:**

- 1) self-ratings
- 2) Life records (observations of behavior in everyday situations),
- 3) Objective tests (experimental situations elicit behavior that would allow prediction to other situations).

#### **Factor analysis in action**

The identification of "source traits:" five-factor theory

All individual differences can be summarized by 5 uncorrelated dimensions of personality.

#### **The 5 factors:**

- 1) Extraversion
- 2) Agreeableness
- 3) Conscientiousness
- 4) Emotional stability/Neuroticism
- 5) Openness to Experience/Intellect

What are the "surface traits" associated with each of the five Factors?

### **STEP 1: CORRELATIONAL ANALYSIS**

To discover associations among measures.

**For example**, do people who score high on one measure also score high on another?

A strong association (high correlation) means:

- 1) That people with one trait are likely to have the second trait (or it's opposite),
- 2) That the measures may overlap. That is, they may, in part or wholly, be measuring the same trait or set of traits.

Replication is important

Why? Helps to interpret measure overlap.

Common sources of high correlations between measures:

- 1) Common method variance
- 2) Common items
- 3) Common "source traits"

### **STEP 2: FACTOR ANALYSIS**

Examines scores that cluster together along a single dimension.

Examines associations between scores and "underlying" dimensions.

Can identify *uncorrelated* or *correlated* dimensions.

### **TYPE CUM TRAIT APPROACH**

**Eysenck's** theory of personality was created in 1947. Eysenck's theory is based on physiology and genetics. Eysenck stated that a personality difference is someone growing out of their genetic inheritance. Eysenck fought hard against the trend that personality involves biology and the environment. He figured out that all human traits can be broken down into two different categories- Neuroticism and Introversion-Extroversion.

Neuroticism ranges from normal and fairly calm to people that are very nervous. This doesn't mean that someone is neurotic but people who fall into this category are more likely to develop neurotic disorders later in life.

Extraversion-introversion, this term means shy, or quiet people versus out going or loud people. Extroversion types of personalities need a lot of stimulation and often express emotions. They are usually relaxed and very confident. Introversion personality types need little external stimulation. They focus more on their inner feelings and bottle them up. They do explode if they are pushed too far.

After a lot of research Eysenck realized that his theory didn't reach all people. He started to study in mental institutions and he labeled a new category, he called it Psychoticism. People who fell into this category were not necessarily psychotic or you will be, only that you show some of the same traits that people who are psychotic have.

Eysenck's test of personality is a series of questions that you rate yourself on. All of the questions have to do with the four categories that Eysenck discovered. At the end of the test Eysenck would read all the data and determine which traits fit the best.

### **Psychoanalytic theory**

— Sigmund Freud developed an intricate theory of personality known as psychoanalytic theory. The therapeutic practice is called psychoanalysis.

— This theory says that traumatic events are repressed into the unconscious part of the mind, where they can influence behavior and personality.

— Freud described hysteria as an example of repression.

— Freud taught that slips of the tongue and dreams could be analyzed to give clues as to what is in a person's unconscious. The elements of a dream are called the manifest content; the hidden meanings are called the latent content.

— In psychoanalytic theory, the mind protects itself from threats by using defense mechanisms such as repression, rationalization, and sublimation.

— Freud theorized three structures of personality: the id (seeks pleasure), the ego (judges reality), and the superego (morality, including conscience).



— Intrapsychic conflict can involve disputes between the id (which attempts to satisfy Biological urges) and the superego (which represents morality). That these pleasurable activities of the body were instinctually inborn and that they were often frowned on by society. The sexual activities that were most disapproved of were repressed into the unconscious and therefore were most likely to influence personality.

**Freud** proposed that personality traits arise at certain times of our lives. For instance, dependency is a personality trait that arises during childhood when the child is very dependent on others. In a sense, Freud suggested that the seeds of adult personality traits are planted during childhood. The particular things that happen to us, those things that were repressed because they were sexual or traumatic, are retained in our unconscious and thereby sprout up as adult personality characteristics. The seeds of our adult traits were planted during the psychosexual stages. The adult personality, according to Freud, is a reflection of the contents of the unconscious. The unconscious is the reservoir of important things that happened to us in childhood. Biological urges, trauma, sexuality, aggression, and other incidents that were repressed provide the impetus for certain personality traits. According to Freud's psychoanalytic theory, an adult personality trait is a throwback to some unconscious urge, such as the urge to gain parental favor. If too much or too little satisfaction occurs during a childhood stage or if a traumatic event occurs during that stage, then a person will exhibit personality traits consistent with that stage. This is known as fixation.

### The Psychosexual Stages

Freud's psychosexual stages are as follows:

1. *Oral*: The first stage in Freud's theory covers babies up to about the age of one and a half years. The driving force during this stage is interest and pleasure in activities involving the mouth (hence the term *oral*), such as sucking and biting. Adult oral personality traits that derive from the oral stage include anything to do with the mouth, such as smoking, overeating, or biting the nails, and anything that is baby like, such as being naïve ("swallowing" anything you are told) or being dependent on others.
2. *Anal*: This stage centers on toilet training, beginning around the age of 18 months or two years and extending up to preschool, about age three. The term *anal*, of course, refers to the anus, the rear end (the opposite end of oral), and one of the jokes in psychology is that you can't spell *analysis* without *anal*. This joke makes light of the fact that Freud believed this stage to be crucial in planting the seeds for a number of adult personality traits. In the anal stage the child is being toilet trained and is learning to hold in and to let out at appropriate times. Therefore, Freud proposed that personality traits related to either holding in or letting out were formed during the anal stage. The following traits are known as anal-retentive (finding pleasure from holding in): neatness, orderliness, punctuality, cleanliness, compulsiveness, perfectionism, and stinginess. The following are called anal-expulsive (finding pleasure from letting out): being undisciplined, messy, disorderly, late, impulsive, and overly generous.

3. *Phallic*: This stage occurs approximately during the preschool years. The term *phallic* means any representation of the penis, which, according to Freud, is the main occupation of the unconscious during the childhood years of about three to six among both boys and girls. It is at this time, theoretically, that children become aware of whether or not they have a penis, and Freud believed that this causes a bit of anxiety in the unconscious parts of their minds. Boys, Freud reasoned, become protective of their penis and fear having it taken away. This is known as castration anxiety and might be manifested in a young boy's fear of knives, scissors, or being bitten by dogs. Girls, Freud thought, feel resentful that they do not have a penis and hence seek phallic things and activities that will provide them with feelings of power and possession. This is known as penis envy and might be seen when preschool girls develop a deep fondness for horses, unicorns, and other strong, masculine things or long, pointed objects. Freud proposed an unconscious drama during this stage that he called his most important idea. It is called the Oedipus complex (sometimes referred to as the *Oedipal conflict*). This unconscious process is named after the Greek story of Oedipus, the man who was raised by foster parents and grew up to unwittingly kill his biological father and marry his biological mother. Freud said that a similar drama occurs in the unconscious minds of preschool boys, who favor their mothers and fear their fathers (castration anxiety). The child resents the father for getting all of the mother's attentions. Many psychoanalysts suggest a similar conflict for preschool girls, referred to as the Electra complex; it is essentially the reverse of the situation for boys: love and desire for father, resentment for mother.

According to psychoanalytic theory, these complexes become so severe and anxiety-producing that the child's unconscious must resolve them using a defense mechanism. The solution is for the child to begin to identify with the same-sexed parent. The child begins to internalize the personality of the same-sexed parent, thereby relieving the anxiety and vicariously winning the love of the opposite-sexed parent. For a little boy, being like daddy means no longer having to fear and resent him, and it also means getting mommy's love through daddy. For a little girl, it means winning daddy's love by being like mommy. This process is called identification with the aggressor; sometimes simply known as *identification*. The result is that children begin to internalize the values, morals (the superego), traits, attitudes, and behaviors of their parents. In fact, in 1925, Freud concluded that he had been wrong about penis envy in young girls and theorized that the Oedipal struggle for girls, as well as for boys, centered on love for the mother. As you can imagine, this remains a controversial idea among psychoanalysts.

4. *Latency*: After resolving the Oedipal conflict through identification (at about the age of six), children enter a stage during which sexual urges are dormant or resting. The term *latent* means that something is present or has potential without being active or evident. During this stage, sexual urges are taking a recess; they are at a minimum. From about the ages of 6 to 12, boys typically stick together and say that they do not like girls, or they act squeamish around girls. Similarly, girls during this stage are highly critical of boys, are shy around them, and avoid them.

Apparently, the demands of the previous stage and the Oedipal drama were so overwhelming that the unconscious needs a bit of a rest.

5. *Genital*: This final of the psychosexual stages arises during adolescence when teenagers begin again to show sexual interests. This stage leads to adult affection and love. If all has gone well in the previous stages, Freud theorized, interest during adolescence is on heterosexual relationships. This is a time of exploring pleasure through more mature love and affection.

Stage Approximate Ages Main Features

1. Oral Birth–1 1/2 or 2 Mouth, dependency
2. Anal 1 1/2–3 Toilet training, give and take
3. Phallic 3–6 Oedipus complex, identification, super ego
4. Latency 6–12 Repression of sexuality
5. Genital 12–Adulthood Development of normal sexuality

### **Humanistic approach**

Maslow's humanistic theory of personality states that people achieve their full potential by moving from basic needs to self-actualization.

#### **Key Points**

- As a leader of humanistic psychology, Abraham Maslow approached the study of personality by focusing on subjective experiences, free will, and the innate drive toward *self-actualization*.
- Maslow expanded the field of humanistic psychology to include an explanation of how human needs change throughout an individual's lifespan, and how these needs influence the development of personality.
- Maslow's hierarchy of needs ranks human needs from the most basic physical needs to the most advanced needs of self-actualization. A person must acquire and master each level of need before proceeding to the next need.
- Maslow studied the personalities of self-actualizers and found they had many things in common; he believed self-actualizers indicate a *coherent personality syndrome* and represent optimal psychological health and functioning.
- Maslow's ideas have been criticized for their lack of scientific rigor, as well as their Western cultural bias

### **Humanistic psychology**

A psychological perspective which rose to prominence in the mid-20th century in response to psychoanalytic theory and behaviorism; this approach emphasizes an individual's inherent drive towards self-actualization and creativity.

- **transcendence**

Superior excellence; supereminence.

- **self-actualization**

According to humanistic theory, the realizing of one's full potential; can include creative expression, quest for spiritual enlightenment, pursuit of knowledge, or the desire to give to society.

Often called the “third force” in psychology, humanism was a reaction to both the pessimistic determinism of psychoanalysis, with its emphasis on psychological disturbance, and to the behaviorists’ view of humans passively reacting to the environment. Two of the leading humanistic theorists who made advancements in the field of personality psychology were Abraham Maslow and Carl Rogers.

### **Abraham Maslow's Humanism**

As a leader of humanistic psychology, Abraham Maslow approached the study of personality psychology by focusing on subjective experiences and free will. He was mainly concerned with an individual's innate drive toward self-actualization—a state of fulfillment in which a person is achieving at his or her highest level of capability. Maslow positioned his work as a vital complement to that of Freud, saying: "It is as if Freud supplied us the sick half of psychology and we must now fill it out with the healthy half."

In his research, Maslow studied the personalities of people who he considered to be healthy, creative, and productive, including Albert Einstein, Eleanor Roosevelt, Thomas Jefferson, Abraham Lincoln, and others. He found that such people share similar characteristics, such as being open, creative, loving, spontaneous, compassionate, concerned for others, and accepting of them.

### **Personality and the Hierarchy of Needs**

Maslow is perhaps most well-known for his hierarchy of needs theory, in which he proposes that human beings have certain needs in common and that these needs must be met in a certain order. These needs range from the most basic physiological needs for survival to higher-level self-

actualization and transcendence needs. Maslow's hierarchy is most often presented visually as a pyramid, with the largest, most fundamental physiological needs at the bottom and the smallest, most advanced self-actualization needs at the top. Each layer of the pyramid must be fulfilled before moving up the pyramid to higher needs, and this process is continued throughout the lifespan.

### **Maslow's hierarchy of needs**

Abraham Maslow developed a human hierarchy of needs that is conceptualized as a pyramid to represent how people move from one level of needs to another.

Maslow believed that successful fulfillment of each layer of needs was vital in the development of personality. The highest need for self-actualization represents the achievement of our fullest potential, and those individuals who finally achieved self-actualization were said to represent optimal psychological health and functioning. Maslow stretched the field of psychological study to include fully-functional individuals instead of only those with psychoses, and he shed a more positive light on personality psychology.

### **Characteristics of Self-Actualizers**

Maslow viewed self-actualizers as the supreme achievers in the human race. He studied stand-out individuals in order to better understand what characteristics they possessed that allowed them to achieve self-actualization. In his research, he found that many of these people shared certain personality traits.

Most self-actualizers had a great sense of awareness, maintaining a near-constant enjoyment and awe of life. They often described *peak experiences* during which they felt such an intense degree of satisfaction that they seemed to transcend themselves. They actively engaged in activities that would bring about this feeling of unity and meaningfulness. Despite this fact, most of these individuals seemed deeply rooted in reality and were active problem-seekers and solvers. They developed a level of acceptance for what could not be changed and a level of spontaneity and resilience to tackle what could be changed. Most of these people had healthy relationships with a small group with which they interacted frequently. According to Maslow, self-actualized people indicate a *coherent personality syndrome* and represent optimal psychological health and functioning.

### **Criticism of Maslow's Theories**

Maslow's ideas have been criticized for their lack of scientific rigor. As with all early psychological studies, questions have been raised about the lack of empirical evidence used in

his research. Because of the subjective nature of the study, the holistic approach allows for a great deal of variation but does not identify enough constant variables in order to be researched with true accuracy. Psychologists also worry that such an extreme focus on the subjective experience of the individual does little to explain or appreciate the impact of society on personality development. Furthermore, the hierarchy of needs has been accused of cultural bias—mainly reflecting Western values and ideologies. Critics argue that this concept is considered relative to each culture and society and cannot be universally applied

**Carl Rogers'** humanistic personality theory emphasizes the importance of the self-actualizing tendency in forming a self-concept.

### **Key Points**

- Carl Rogers was an influential humanistic psychologist who developed a personality theory that emphasized the importance of the self-actualizing tendency in shaping human personalities.
- Rogers believed that humans are constantly reacting to stimuli with their subjective reality (phenomenal field), which changes continuously. Over time, a person develops a self-concept based on the feedback from this field of reality.
- In the development of self-concept, positive regard is key. Unconditional positive regard is an environment that is free of preconceived notions of value. Conditional positive regard is full of conditions of worth that must be achieved to be considered successful.
- Human beings develop an ideal self and a real self based on the conditional status of positive regard. How closely one's real self matches up with their ideal self is called congruity.
- Rogers believed that fully functioning people could achieve "the good life," in which they constantly aim to fulfill their potential and allow their personalities to emanate from their experiences.
- Like Maslow's theories, Rogers' were criticized for their lack of empirical evidence in research.

**Carl Rogers** was a prominent psychologist and one of the founding members of the humanist movement. Along with Abraham Maslow, he focused on the growth potential of healthy individuals and greatly contributed to our understanding of the self and personality. Both Rogers'



and Maslow's theories focus on individual choices and do not hold that biology is deterministic. They emphasized free will and self-determination, with each individual desiring to become the best person they can become.

Humanistic psychology emphasized the active role of the individual in shaping their internal and external worlds. Rogers advanced the field by stressing that the human person is an active, creative, experiencing being who lives in the present and subjectively responds to current perceptions, relationships, and encounters. He coined the term actualizing tendency, which refers to a person's basic instinct to succeed at his or her highest possible capacity. Through person-centered counseling and scientific therapy research, Rogers formed his theory of personality development, which highlighted free will and the great reservoir of human potential for goodness.

### **Personality Development and the Self-Concept**

Rogers based his theories of personality development on humanistic psychology and theories of subjective experience. He believed that everyone exists in a constantly changing world of experiences that they are at the center of. A person reacts to changes in their phenomenal field, which includes external objects and people as well as internal thoughts and emotions.

Rogers believed that all behavior is motivated by self-actualizing tendencies, which drive a person to achieve at their highest level. As a result of their interactions with the environment and others, an individual forms a structure of the self or self-concept—an organized, fluid, conceptual pattern of concepts and values related to the self. If a person has a positive self-concept, they tend to feel good about which they are and often see the world as a safe and positive place. If they have a negative self-concept, they may feel unhappy with who they are.

### **TRAIT APPROACHES TO PERSONALITY**

Human behavior can be summarized by a few TRAITS.

What is a trait?

Dimension of personality used to categorize people according to the degree to which they manifest a particular characteristic.

#### **Two assumptions of trait approach**

- characteristics are stable over time
- characteristics are stable across situations

## **Precursors of trait theories: personality typologies**

William Sheldon & Carl Jung: Tried to classify people into types.

"Types" had sets of characteristics in common.

## **Traits are personality dimensions**

What is the "trait continuum?" Aspects of the trait continuum:

1) Traits are continuous

People can have more (or less) of a trait, by demonstrating behavior:

A) More frequently

b) With more intensity

c) Across a wider range of situations.

2) Traits describe individual differences

People respond to the same situation in different ways.

3) Traits are bipolar.

For any trait, there is an opposite. Both lie on the same dimension.

4) Traits can be distinguished from states.

Traits: enduring and stable over long periods

States: brief, situation-specific.

## **Adjustment- Meaning and Nature**

According to the Shaffer, L.S. "Adjustment is the process by which living organism maintain a balance between his needs and the circumstances that influence the satisfactions of these needs.

In the words of Coleman, James C., “Adjustment is the outcome of the individual’s attempts to deal with the stress and meet his needs: also his efforts to maintain harmonious relationships with the environment.

And according to the Carter V Good, “adjustment is the process of finding and adopting modes of behavior suitable to the environment or the change in the environment.

## **Introduction:**

You may have heard someone say that “somebody just doesn’t adjust to situation” or “somebody facing problem in adjustment”. Adjustment is a necessary characteristic to be able to live peacefully in this world.

Adjustment problem starts right from the birth of and continues till death, various situations arise at home. School, college, and workplace where we need to give up a little of our demands and accept what is present.

Adjustment is the process of arriving at a balanced state between the need of individual and their satisfaction. Home and school play pivotal role in the adjustment of an individual.

## **What is adjustment?**

The dictionary meaning of the word “adjustment” is, to fit, make suitable, adapt, arrange, modify, harmonize or make correspondent. Thus adjustment between two things means modify one or both of them to correspond to each other. For example: wearing of cloth according to the season. As we can’t change the season so we have to modify our cloths.

The struggle between the needs of the individual and external forces is a continuous struggle since time immortal. According to the Darwin (1958) theory of evolution, those species which adapted successfully to the demands of living, survived and multiplied while others, who did not, died out. Therefore adaptation or change in oneself according to the external environment is a basic need for survival.

“Adjustment” can be defined as a process of altering one's behavior to reach a harmonious relationship with their environment. This is typically a response brought about by some type of change that has taken place. The stress of this change causes one to try to reach a new type of balance or homeostasis between the individual (both inwardly and outwardly), and with their environment.

## **Nature**

### **Adjustment as achievement**

Adjustment can be interpreted as both process and the outcome of the process in the form of some achievements. When a poor child study in the corner of a play ground because in home he has not proper place to study he is said to be in the process of adjustment. As a result of that adjustment he achieves good grads in examination. Thus adjustment meant as an achievement means how the effectiveness with which an individual can function in changed circumstances.

### **Adjustment a Continuous process**

The process of adjustment is continuous. It starts at one's birth and goes on without stop till one's death. A person as well as his environment is constantly changing as also are his needs in accordance with the demands of the changing external environment. Consequently, the process or terms of an individual's adjustment can be expected to change from situation to situation and according to Arkoff (1968), there is nothing like satisfactory or complete adjustment which can be achieved once and for all time. It is something that is constantly achieved and re-achieved by us (Mangal,2006).

### **Adjustment Mechanism**

An adjustment mechanism is a device used by the individual to achieve satisfaction of the need indirectly. This helps reducing tensions and assists him in maintaining self-respect. With limits adjustment mechanisms are desirable and very helpful in dealing with frustration. Carried to extreme, they lead to behavior disorders. Following are adjustment mechanisms:

- Compensation. Compensation is a concept where the individual attempts to cover up his weakness in one area by exhibiting his strength in another. A student deficient in physical activities may compensate himself in showing good results in the academic field and vice versa.
- Identification. Identification is a concept when an individual attempts to identify himself with some successful person. To hide his own failures, a student may identify himself with his father and talk about his success.
- Rationalization. Rationalization means shifting of responsibility for our failures to factors outside it i.e. many students attribute their failure to the stiff question paper.
- Projection. This is a tendency to 'push out' upon another person one's own unrealized, frustrated ambitions, or attribute to another one's own faults. For example, school learners are often the victims of their parents' projection of their former hopes for higher education and higher social status.

- Day-Dreaming. The imaginative fulfillment of needs is called day-dreaming. Day-Dreaming provides mental relief to an individual if it is done with limits. It becomes very detrimental when it is carried to excess (Aggarwal,1995).

### **Areas of Adjustment**

Adjustment in the case of individual consisted of personal as well as environmental components. These two aspects of adjustment can be further subdivided into smaller aspects of personal and environmental factors.

Broadly speaking there are three areas where an individual need to be adjusted to live a balance life. These are: Family and home, School, and Society.

Here we will discuss two areas: (1) Family and home, and (2) school.

### **Adjustment at Family and Home:**

- An individual is not born adjusted or maladjusted, it is his physical, mental and emotional potentialities that are influenced and directed by the factors of environment in which he found himself that adjustment or maladjustment gradually develop. The family is the oldest and the most important of all the institutions that man has devised to regulate and integrate his behavior as he strives to satisfy his basic needs. However, to understand the influence of the family on the child, it is important to understand the family and its functions.
- It has been confirmed through various studies that if family relationship has been good, not only during childhood but also during adolescence, the person will develop into a well adjusted individual. One of the important roles of family is presumed to be the socialization of the child.
- Home is first social institution where a child needs to be adjusted. When a child becomes aware of other individuals who comprise his social environment at home he tends to regard them as a mean through which he may attain personal satisfaction. He needs to be trained to modify his purely self centered interests and to cooperate in the activities of and for the welfare of others.
- From the very beginning he imitates the speaking and eating habits of his family and gradually reflects attitudes learned in the home toward elders. Good or bad behavior that is exhibited at home is carried by the child into these relationships with persons outside the home. Thus the family attitudes become an important consideration in the adjustment of a child.

### **Factors related to adjustment in the family:**

- According to the Continuity view, the role of the early parent-child relationship play basic role in constructing relations with people throughout the life span. Parental relation and the nature of the family process have a great effect on the adjustment process.
- Parental divorce
- The children of the divorce family show poorer adjustment than their counterparts in non divorced families. Those who have experienced multiple divorces are at greater risk.
- Stepfamilies
- Due to increase in the divorce rate and re-marriage the number of the step-families also increased. Like the divorced families, children and adolescents in the step families have also adjustment problems as compare to their counterpart in the biological families or non divorced families. Their problems are much like that of the children of divorced families- Academic problems, externalizing and internalizing problems, lower self esteem, delinquency and so on.
- Single-mother family
- Children living in single-mother family structures were more likely to report maladjustment when compared to those living in non divorced- two biological parent family structures.
- Working mothers
- Working mother, who come to home after 2 o' clock or after 4 o' clock pay little attention to their children due to shortage of time and load of work. This situation effects the children in two ways: either they become adapted to the circumstances or they develop certain adjustment problems.

### **Adjustment at school**

- As the children start school they face many challenges. Personal challenges occur as children take new identity at school. Children face the challenges to adjust to the strange building, new teachers, new academic activities, and they need to mix with the new and more diverse group of children.
- At school, daily schedule is more structured, with more formal rules. Children are faced with large groups of children of different ages and size especially during assembly and playtime, and they are confronted with the challenges of making new friends. Toilets are often located away from classrooms and play areas. There are more buildings and bigger playgrounds. Thus a child confront with a totally new environment as compare to home. Successful adjustment to school largely depends on past experiences at home and on children skills and knowledge.
- When children exhibit a range of social skills associated with cooperation, initiating interactions or assertion, and self control, they are more likely to adjust easily to school.



Difficulties are likely to arise when children are: non compliant; disorganized; distractible; or when they are anti social and have difficulty considering the rights of others.

- Adjustment to schooling is influenced by a variety of personal and family Characteristics, and societal trend. It is the interaction of the child's personal characteristics and their experiences that ultimately determines how a child adjusts to school.

### **Dimensions of Adjustment in School**

Following are the important dimensions of adjustment in school.

1. Adjustment to the building and school routine.
2. Adjustment to academic, co-curricular activities.
3. Psychological adjustment.
4. Adjustment to and within the self.
5. Social adjustment.

#### **1. Adjustment to the new building and school routine**

This means that a child should not feel himself a stranger in the new school building. He should feel like home while playing in the play ground, using toilet, and performing different activities at school.

#### **2. Adjustment to Academic and Co-curricular programs**

This includes Getting most out of specific studies and activities, to Overcoming learning problems and instructional difficulties, and to make satisfactory progress in exploratory experience.

#### **3. Psychological Adjustment**

Development of good memory, desirable interest, good temper, and desirable attitudes referred to the psychological adjustment of child.

#### **4. Adjustment to and within Self**

Adjustment to and within self means Self-understanding and acceptance, a Proper insight into needs, attitudes and values, overcoming emotional difficulties and Maintenance of health and personal hygiene.

#### **5. Social Adjustment**

This means A Harmonious relationship with the students and teachers, Proper understanding of social needs, requirements and group goals, and meeting effectively to the social requirements of the home, peer groups, culture and the community.

### **Factors effecting adjustment at school**

### **1. Proper training to Teachers**

Teacher's training in educational psychology may help students in their adjustment. Teachers' personality and democratic attitude are also important factors which can promote adjustment in students.

### **2. Adequate Curriculum**

Curriculum should be planned, and transacted in such a way that it should fulfill psychological and social needs of students. Need fulfillment leads to better adjustment.

### **3. Adequate Recreational Facilities**

Facilities, such as sports, library, debate and excursion may help students in their adjustment.

### **4. Classroom climate**

If the classroom climate is affectionate and cooperative enough, it can facilitate better adjustment in students.

### **5. Proper relationships between administrations**

Cordial relations between the Principal and teachers, and teachers and teachers, and teachers and office staff also play an important role in creating harmonious and congenial environment in the school.

### **6. Evaluation system of the school**

Evaluation should be rigid cum flexible. Too much subjectivity and unreliability should be avoided. Numerical marking should be avoided and grades should be given to students. Due to low marks, students lose confidence in their life which then affects in their mental health. The word 'fail' should not be used by the teachers

### **The role of classroom teacher in student adjustment**

The class room teacher plays the most strategic role to bring improvement in the class room environment and help the students in adjustment. He can perform the following role :

- Provide a classroom environment where the children feel free to express themselves
- Develop in youngsters a sense self respect and self-esteem by complements for work well done.
- Accept the individual differences of students.
- Develops comprehensive cumulative records by collecting information through classroom sitting.
- Practices good mental health
- Participate and contributes to the effectiveness of case conferences.
- Teacher himself should adopt democratic and respective behavior.

### **Adjustment as process**

In psychology, adjustment refers to the behavioural process of balancing conflicting needs, or needs against obstacles in the environment. Humans and animals regularly do this, for example, when they are stimulated by their physiological state to seek food, they eat (if possible) to reduce their hunger and thus adjust to the hunger stimulus. Adjustment disorder occurs when there is an inability to make a normal adjustment to some need or stress in the environment.

In general, the adjustment process involves four parts:

1. a need or motive in the form of a strong persistent stimulus
2. the thwarting or non fulfillment of this need
3. varied activity, or exploratory behavior accompanied by problem solving
4. some response that removes or at least reduces the initiating stimulus and completes the adjustment

## **Methods of Adjustment**

### **The Direct and Indirect Methods of Adjustment**

Stratum-specific rates (e.g., age-specific rates)

Crude rates

Stratum-adjusted rates(e.g. age-adjusted rates)

If a population can be stratified (divided into groups), appropriate comparisons may be made of stratum-specific as: Age-specific rates

Cause-specific rates

Age-cause-specific rates

Age-gender-race-specific rates

A crude rate (overall rate) is a weighted average of stratum-specific rates (the weights are the population totals of the strata)

The difference between crude rates of two populations involves differences in both the stratum-specific rates and population composition (distribution of characteristics)

Comparison of crude rates is often confounded by these differences and not appropriate

Let  $j$  = stratum

= number of events in stratum  $j$  of the observed population

= number of persons in stratum  $j$  of the observed population

= event rate in stratum  $j$  of the observed population

$C$  = crude rate of the observed population

$C =$

Stratum-specific rate =

$x_j$

$N_j$

$p_j$

$x_j \sum N_j = \text{total deaths}$

$X_j N_j = \text{deaths in stratum } j$

### **Methods of adjustment**

**Direct method** Apply stratum-specific rates observed in the populations of interest to a reference or standard population in order to obtain the number of deaths expected in the reference population

**Indirect method** Apply stratum-specific reference rates to the populations of interest to obtain the number of expected deaths in each of those populations

### **Characteristics of a well adjusted person**

1. A well adjusted person is one who understands other's needs.
2. A well adjusted person usually has a high level of self-esteem and is able to be a positive role model to others.
3. Well adjusted people are usually able to cope with all of life's daily stresses without becoming a burden to others.
4. They respect the rights of others and are able to realize the world does not revolve around their own needs.
5. Well adjusted people are not greedy. They usually are able to give freely to others without expecting too much in return.
6. They see the beauty in the simple pleasures of life and try to stay sane in the most insane of circumstances.
7. Adaptive, empathetic, modest, humane, genuine, social, effective citizenship qualities.
8. Awareness of his own strengths and limitations. A well adjusted person knows his own strengths and weaknesses. He tries to make capital out of his assets in some areas by accepting his limitation.
9. Respecting him and others. The dislike of one-self is a typical symptom of maladjustment. An adjusted individual has respect for himself as well as for others.
10. An adequate level of aspiration. His level of aspiration is neither too low nor too high in terms of his own strengths and abilities. He does not try to reach for the stars and also does not repent over selecting an easier course for his advancement.

11. Satisfaction of basic needs. His basic organic, emotional and social needs are full satisfied or in the process of being satisfied. He does not suffer from emotional cravings and social isolation. He feels reasonably secure and maintains his self-esteem.
12. Absence of critical or fault-finding attitude. He appreciates the goodness in objects, persons or activities. He does not try to look for weakness and faults. His observation is scientific rather than critical or punitive. He likes people, admires their good qualities, and wins their affection.
13. Flexibility in behavior. He is not rigid in his attitude or way of life. He can easily accommodate or adapt himself to changed circumstances by making necessary changes in his behavior.
14. The capacity to deal with adverse circumstances. He is not easily overwhelmed by adverse circumstances and has the will and the courage to resist and fight odds. He has an inherent drive to master his environment rather than to passively accept it.
15. A realistic perception of the word. He holds a realistic vision and is not given to flights of fancy. He always plans, thinks and acts grammatically.
16. A feeling of ease with his surroundings. A well-adjusted individual feels satisfied with his surroundings. He fits in well in his home, family, neighbourhood and other social surroundings. If a student, he likes his school, school-mates, teachers, and feels satisfied with his daily routine. When he enters a profession, he has a love for it and maintains his zeal and enthusiasm despite all odds.
17. A balanced philosophy of life. A well-adjusted person has a philosophy which gives direction to his life while keeping in view the demands of changed situations and circumstances. This philosophy is centred around the demands of his society, culture, and his own self so that he does not clash with his environment or with himself

### Summary

- Adjustment is not a simple term like adaptation or accommodation. It actually a behavioral process by which humans and other animals maintain an equilibrium among their various needs or between their needs and the obstacles of their environments.
- The family is the oldest and the most important of all the institutions that man has devised to regulate and integrate his behavior as he strives to satisfy his basic needs. Successful adjustment to school largely depends on past experiences at home.
- The class room teacher plays the most strategic role to help the students in adjustment.
- Adjustment can be interpreted as achievement process.
- Compensation, Identification, Rationalization, Projection, Day-Dreaming is the important adjustment mechanisms.
- A well adjusted person process a balanced philosophy of life.



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