Perception [redacted]finition, Principles an

MEANING:

Everyday different stimuli around us will be stimulating our sense organs. Many of these stimuli are received by our sense organs and are converted into sensations.

These sensations are transmitted to the concerned parts of brain.

In turn the brain will interpret these sensations. It is only after such interpretation we understand what the stimulus is.

Hence in understanding the world around us, attention occurs first, followed by sensation and finally interpretation by brain.

This process of 'interpretation of stimulus is known as perception'. So perception involves two processes: sensation interpretation. But interpretation of any stimulus requires past experience also. For example, a child who has not seen an elephant earlier either in photo or directly cannot identify that animal, whereas another child who has seen earlier will identify the animal easily.

DEFINITION :

Perception may be defined as "a process of interpretation of a present stimulus on the basis of past experience".

Perception is not as simple as said here. It is an integrated approach. It is a synthetic process where different physiological and psychological processes are involved. For example, the accuracy of sense organs, clarity of sensations, mental set of an individual, etc. Otherwise our perception may go wrong.

Principles of Perceptual Organisation:

William James American psychologist has said if we understand the world as it appears to us, it will be a big booming- buzzing confusion. Hence, we do not see the things as they appear, but we see them as we want, i.e. more meaningfully.

In perceptual process we select a particular stimulus with our attention and interpret it. In the same way whenever it is necessary many discrete stimuli in our visual field are organised into a form and perceived more meaningfully than they appear.

This phenomenon was well explained by Gestalt psychologists. They believed that the brain creates a coherent perceptual experience by perceiving a stimulus as a whole than perceiving discrete entities. This is more meaningfully stated in the gestalt principle as 'the whole is better than sum total of its parts'. This is explained under many sub-principles of perception.

Figure-ground Relationship:

According to this principle any figure can be perceived more meaningfully in a background and that figure cannot be separated from that background. For example, letters written with a white chalk piece are perceived clearly in the background of a blackboard.

Fig. 3.2: Reversible configurations

In the Figure 3.2, two faces can be seen in the background of a white colour. So also the white background can be perceived as a vessel in the background of two faces.

Grouping of Stimuli in Perceptual Organisation

As said above, according to gestalt principle, the objects can be perceived meaningfully when they are grouped together. There are some principles which are followed by us in order to make our perception more meaningful.

They are as follows:

a. Proximity:

Proximity means nearness. The objects which are nearer to each other can be perceived meaningfully by grouping them. For example, the word 'Man', here though the letters are discrete, when grouped together gives some meaning. The stars in the Figure 3.3 which are nearer to each other are perceived together as groups/single figure.

Fig. 3.3: Proximity

b. Similarity:

Stimuli need not be nearer to each other for perception. If there is similarity in these objects, they are grouped together and perceived, even if they are away. For example, in this Figure 3.4 grouping will be done according to similarity, i.e. all circles, squares and triangles are grouped separately.

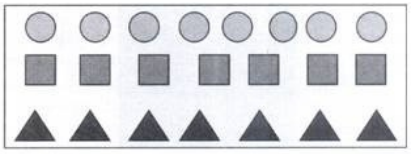
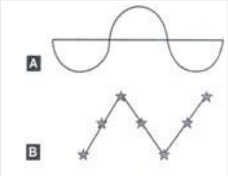


Fig. 3.4: Similarity

c. Continuity:

Any stimulus which extends in the same direction or shape will be perceived as a whole Figure 3.5A and B. For example, (A) in this figure though the curved line is broken, it is perceived as a continuous line, so also straight

line is not seen with semicircles but as a continuous line (B) the dots are perceived as existing in the same line of direction continuously.



Figs 3.5A and B: Continuity

d. Closure:

When a stimulus is presented with gaps, the human tendency is to perceive that figure as complete one by filling the gaps psychologically. For example, in the Figure 3.6, the gaps are filled psychologically and perceived as letters M and A, circle and a rectangle.


Fig. 3.6: Closure

e. Symmetry:

Objects which are having symmetrical shape are perceived as groups. For example, the brackets of different shapes shown in the Figure 3.7 perceived meaningfully, because they are grouped together and perceived as brackets.


Fig. 3.7: Symmetry

Perceptual Constancy:

This refers to stableness in perception. We have a tendency to perceive the objects as relatively stable and unchanging in shape and size, inspite of a change in the image that we receive.

For example, when we see a person from 5′ distance, the size of the image in our eyes differs from the image of the same person from 100′ distance.

Even then we perceive him as the same person. When we see people and houses from the top of hill, the images will be very small like Lillyputs. But we do not get confused by this. We perceive them correctly according to their actual size.

Perceptual constancy depends upon several factors like past experience, expectancy, habits, motivations, cognitive styles, learning, imagination, etc.

Types of perceptual constancy:

There are different types of perceptual constancies. They are shape and size, brightness and colour, size constancy, etc.

Depth Perception:

Ability of a person to perceive the distance is known as depth perception. This is very important ability to judge the distance between us and other people, objects and vehicles moving particularly when we are on roads. This is also known as third dimension. The other two dimensions are left and right, and above and below.

Cues:

Depth perception is possible due to certain cues. These cues help us to understand the distance between one person and the other person or object.

These are of two types:

a. Monocular cues:

These are the cues that can operate when only one eye is looking. Some of such cues are:

Linear perspective:

The distances separating the images of far objects appear to be smaller. For example, imagine that you are standing between railway tracks and looking off into the distance. It appears that the tracks would seem to run closer and closer together at the other end.

Aerial perspective:

The nearer objects appear clearer than the distant objects. For example, a hill in far of distance appears farther away because the details do not seem clearly.

Interposition:

When one object obstructs our view of another, the front one appears nearer than the partly covered one. For example, in the Figure 3.8—the hill which appears full is definitely nearer than the partly seen.

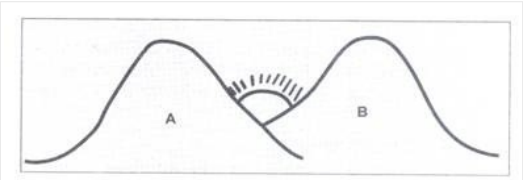


Fig. 3.8: A is positioned infront of B

Gradient structure:

A gradient is a continuous change in something- a change without abrupt transitions. Usually the regions closer to the observer have a coarse texture and many details. As the distance increases, the texture becomes finer and finer.

This happens very gradually and gives a cue about the depth or distance. In Figure 3.9 the structures which are nearer appear larger than the distant one which appear smaller as the move away.

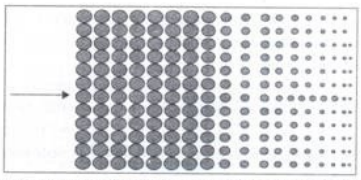


Fig. 3.9: The structures appear larger when closer and smaller as they move away

There are some other monocular cues also viz., movement, shadow, etc.

b. Binocular cues:

Sometimes the depth can be perceived when both eyes are used. This is called binocular cue. There are 2 binocular cues:

1. Retinal disparity:

The image of the object which falls on both the retinas differs. Disparity will be more when the object is closer than when it is far away. Depending upon the correspondence between the distance and the amount of disparity, the depth can be perceived.

2. Convergence or divergence of eyeballs:

When the object moves nearer and nearer to our eyes, our eyeballs converge, and as the object moves away from us the eyeballs diverge. This process acts as a binocular cue to perceive the depth.

Perception of Movement:

When a particular object appears in different places at different times we understand that the object is in movement. This process is called perception of movement. Such an ability to perceive movement is gained from birth itself as a natural process.

This is a most important ability. It is only by this ability the organism can understand the world around and can perceive the dangers / threats in the movement, so that it can easily escape from such dangers.

Apparent motion:

Sometimes we perceive that the objects are moving. In fact the objects are stationary, i.e. they will not be moving. Hence the perception of an object which is not moving, as an object moving is an illusion. For example, when we are moving fast in a bus, the trees, plants and other non-moving objects appear to move in the opposite direction.

In the same way, even the movements of figures in a film appear to move, though they remain without movement. Since moving pictures are taken continuously and the film reel is run very fast, it produces a movement feeling called stroboscopic motion or phi phenomenon.

Factors Affecting Perception:

There are individual differences in perceptual abilities. Two people may perceive the same stimulus differently.

The factors affecting the perceptions of people are:

a. Perceptual learning:

Based on past experiences or any special training that we get, every one of us learns to emphasise some sensory inputs and to ignore others. For example, a person who has got training in some occupation like artistry or other

skilled jobs can perform better than other untrained people. Experience is the best teacher for such perceptual skills.

For example, blind people identify the people by their voice or by sounds of their footsteps.

b. Mental set:

Set refers to preparedness or readiness to receive some sensory input. Such expectancy keeps the individual prepared with good attention and concentration. For example, when we are expecting the arrival of a train, we listen to its horn or sound even if there is a lot of noise disturbance.

c. Motives and needs:

Our motives and needs will definitely influence our perception. For example, a hungry person is motivated to recognise only the food items among other articles. His attention cannot be directed towards other things until his motive is satisfied.

d. Cognitive styles:

People are said to differ in the ways they characteristically process the information. Every individual will have his or her own way of understanding the situation. It is said that the people who are flexible will have good attention and they are less affected by interfering influences and to be less dominated by internal needs and motives than or people at the constricted end.

Extrasensory Perception (ESP):

Is there any way of knowing about the world in which the information does not come through the senses? Some people believe that is possible. But there are some instances reported by people that they have experienced some perceptions without the aid of their sense organs. Psychologists have named the perception that occurs without sensory stimulation as 'Extrasensory perception' (ESP).

This is otherwise known as sixth sense in common man's view. Some of the common phenomena in ESP are clairvoyance, telepathy, meeting the souls, precognition, psycho-kinesis, reincarnation, etc.

Though research is going on, the researchers are unable to confirm them, because these experiences are not repeatable for verification. In many instances they remain as coincidences.

Errors in Perception:

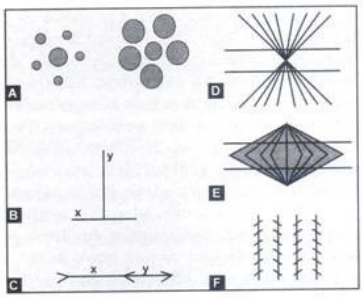
As seen above perception is process of analysing and understanding a stimulus as it is. But it may not be always possible to perceive the stimuli as they are. Knowingly or unknowingly, we mistake the stimulus and perceive it wrongly.

It may be due to defect in our sense organs or defective functioning of the brain. Many times the prejudices in the individual, time of perception, unfavourable background, lack of clarity of stimulus, confusion, conflict in mind and such other factors are responsible for errors in perception. There are two kinds of errors:

a. Illusion:

Illusion is a false perception. Here the person will mistake a stimulus and perceive it wrongly. For example, in the dark, a rope is mistaken as a snake or vice versa. The voice of an unknown person is mistaken as a friend's voice. A person standing at a distance who is not known may be perceived as a known person.

Most of our illusions are visual and auditory. But illusions pertaining to other senses are also possible. See Figure 3.10 for some of the examples of visual illusions.



Figs 3.10A to F: (A) both the circles in the middle are same in size, but appear to vary. (B) Both horizontal and vertical lines are equal in length. (C) Both feather headed and arrow headed lines are equal in length. (D & E) The horizontal lines are straight. (F) The space between vertical lines, is equal

b. Hallucination:

Sometimes we come across instances where the individual perceives some stimulus, even when it is not present. This phenomenon is known as hallucination. The person may see an object, person, etc. or he may listen to some voice though there are no objects and sounds in reality.

Hallucinations pertain to all the sensations appear in people, but visual and auditory hallucinations are more common. Usually persons with unsound mind, emotionally disturbed, alcoholics and those who are in confused states may experience hallucinations. However, among abnormal people and intoxicated persons hallucinations are very common.

In addition to these errors, there are some abnormalities in our sense perceptions called anaesthesia (no sensation), hyperesthesia (excessive sensitivity) and paraesthesia (distorted or wrongly localised sensation). In these cases the tactile (skin) sensation is wrongly perceived.

Observation and Nurse:

Good and keen observational ability is an essential characteristic of a nurse. The most important activities of a nurse include observation of changes in pulse, respiration, heart beat and blood pressure because they indicate general condition of a patient. The condition of the postoperative case, the emergency cases also require accurate observation.

Observation involves attention and perception. The nurse should always concentrate her attention on duties.

Distraction of attention may lead to serious consequences like death of a patient. Attention helps to understand the problems of patient. At the same time, accurate perception helps the nurse to have a clear picture of the condition of the patient.

While attending the emergency cases, during operations and other serious conditions accurate perception of the situations help the nurse to deal with the situation in an effective manner.